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WEALTH & TAXABLE CAPACITY

OF

INDIA

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BY

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INTRODUCTION

It has become fashionable, of late, to usher an important work of research into the world by a Foreword, or Preface, or Introduction, or whatever else it might be called, from some eminent personage other than the author of the book. The motive may be a perfectly intelligible modesty on the part of a beginner in the domain of research, who, by associating with himself a personage of established reputation, desires to secure a better hearing for his own views; or an equally legitimate desire to secure sufficient sales of the work, which, given the existing conditions, may not by itself, and without an adventitious aid of this description, command the sales which would indemnify the author or the publisher for at least the pecuniary sacrifice involved in the thankless task of research. In the latter case, however, the suitability of the individual selected for the honour of Preface-writing varies inversely with the subject matter of the book. The selection is made rather with an eye to worldly eminence than with any regard to inherent aptitude. As I do not pretend to any modesty or diffidence, as I cannot find any tame public man, or aspiring politician to be so obliging as to lend me the advantage of his name and association; and as I am unwilling to give any part of the beneft or opprobrium for any reflections contained in this work to any other person, even by the mere association of names, I have thought it best to comply with the fashion of the times without fathering upon any one views which he may have never entertained.

Besides the insistent and insidious demands of fashion, there are other sound reasons why a foreword was needed for this work, and why that foreword had to be by one of the writers themselves. The book contains facts, as well as opinions. I have thought it best that Mr. K. J. Khambata should be confined entirely to statements of facts, which he has gleaned by his own research, and that responsibility of any opinions expressed in this work should rest wholly on myself. For, in matters such as those dealt with in this book, critics in India have a nasty way of damping the ardour of a rising young man by the sheer weight of their unbalanced abuse, the moment they scent the least little scent of "political" views. It was not prudential considerations like these that have forced me to this conclusion. The actual division of labour in the preparation of this work amply warrants, and even demands, such a course. The first part of the work is Mr. Khambata's, prepared under the general guidance and supervision of the present writer. That part deals almost exclusively with matters and statements of facts. The second part is mine entirely; and though it has its share of the basic facts, discovered or corelated by considerable labour, it has also its share of opinions on some of the most vexed problems of to-day and to-morrow. It would be unfair to suggest, by the inevitable implication of the joint authorship, that Mr. Khambata was in any way responsible for opinions expressed by his colleague. Another reason of equal importance is that several problems dealt with in the work need to be brought together and stated as problems together, which one can only do in a preface directly enough to attract sufficient attention of the discerning critic. In the main work, the requirements of perspective necessarily demand the separation of interlocked arrangements. While perspective is necessary for the proper appreciation of a problem, a collective view has its own merits. An Introduction was thus inevitable; and since one had to be written, one might as well make the most of it.

Before getting to the main problems, let me dispose of two or three points of minor importance, which, however, are likely to create confusion if not explained at this stage. While by the nature of his work, Mr. Khambata had to aim at as much exactness as he could possibly attain; and so, while his figures are as precise as he could make them, the second part of the work has preferred to deal in round terms. For one thing, the exactness of the earlier portion is, in a manner of speaking, not perfect, in so far as there is an unavoidable margin of error; the round term method of dealing with the figures simplifies discussion and does not in all probability increase the margin of error. The discrepancies, therefore, which might otherwise appear between the first and the second parts of this work will, if this caution is borne in mind, vanish. Particular mention may be made, however, of the detailed statement of the provincial wealth as given in pp. 283-6, the total of which seems to be astonishingly small compared with the First Book. The First Book, however, has dealt with the whole of India as one unit, including the British Provinces as well as the Native States. In the Second Book, the discussion had necessarily to be confined to British Provinces, of which, the information, statistical and otherwise, is more ample than that of the Native States. Large areas are thus excluded from the purview in the pages mentioned. And, besides, a number of articles have also been omitted. If, therefore, due allowance is made for both these factors, the discrepancy will not appear to be quite as considerable as it seems at first.

These, however, are points of second class importance. The real problem with which the work attempts to grapple are different. Take the case of the services. Should they have been included in the computation of the wealth of the community. We have not,—for reasons which are detailed in the appropriate sections of Book I. Briefly stated, we consider that the only reliable and acceptable estimate of the national wealth can be had only in regard to material commodities. To attempt to include the services—which may mean a real addition to the sum total of the community's welfare,—would render the calculus impossible, given the standards we now possess for the valuation of intangible goods. And, then, a number of services are really worthless, or even injurious to the community. The classic case of the lawyer may be amplified by the equally important case of the merchant. The mere merchant is not productive, though, in the society as it is organised to-day, he may be taking a much larger share of the national dividend than he may be entitled to. The case of the Soldier and of the Civil Servant, of the Statesman (or politician) and the Teacher, are difficult from the point of view of tangible expression in money values. I have simply assumed that in a society arranged more logically, more humanly, more economically, the steady endeavour of the people would be to abolish all forms of parasitism, and that in the process of such abolition, the lawyer and the merchant will necessarily disappear. It makes no prejudice to the reasoning of this type to urge that before we can evolve a society which can dispense with the services of the merchant and of the lawyer,—to name the most prominent examples,—we shall have to go through a stage of intense legalisation. It may or may not be necessary. My point simply is that in a sane society, aiming at the utmost conservation of human energy and at the most equal and equitable distribution of the material necessities for the maintenance of life, every form of parasitism will be sought to be abolished; and that, consequently, the inclusion of the services by the conventional valuation adventitiously given to them in a commercial society, would be simply adding to the mass of confusion hanging over this subject. All services have to be and are rewarded ultimately from the same dividend of material commodities produced in the nation, or any other unit we may take for the purposes of such computation. When we have measured the material commodities, we must necessarily be taken to have included also the services,—not only those which are actually, obviously, directly, involved in the production of those commodities, but also those which are ancillary or incidental to that production. The service of the Civil Servant or of the Soldier is an illustration of the latter type. The case of Transport Service is, I recognise, peculiar. Transport clearly does not add to the volume of production; but it as clearly adds to the value or the qualitative expression of production. Are we justified in excluding the Transport Service altogether? That the charges actually paid for the transport service are greater than they would be in a properly co-ordinated society is no reason to exclude them altogether. Our only apology of the inclusion of and statements of facts. The second part is mine entirely; and though it has its share of the basic facts, discovered or corelated by considerable labour, it has also its share of opinions on some of the most vexed problems of to-day and to-morrow. It would be unfair to suggest, by the inevitable implication of the joint authorship, that Mr. Khambata was in any way responsible for opinions expressed by his colleague. Another reason of equal importance is that several problems dealt with in the work need to be brought together and stated as problems together, which one can only do in a preface directly enough to attract sufficient attention of the discerning critic. In the main work, the requirements of perspective necessarily demand the separation of interlocked arrangements. While perspective is necessary for the proper appreciation of a problem, a collective view has its own merits. An Introduction was thus inevitable; and since one had to be written, one might as well make the most of it.

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The consideration of Services, and their place in human economy, goes much further than appears at first sight. We shall have to supplant,—or rather recognise more fully and clearly than we ever have done in economics so far,—that the real motive force is, and should be, **service**, rather than the desire for personal gain, expressed in terms of money values. But this is not the place to interpolate a discussion on the real motive force for human activity known as economic activity. In considering, however, the solutions of the problem, which the study involved in this work has disclosed, we have necessarily to draw upon the ideal a little bit, in contrast with the actual. The economic problem of India is perfectly clear. We have considered the present as well as the potential wealth of India, as far ahead as one can see at present. But allowing for all possible increases, it cannot be doubted that India is much too much overpopulated; or, what is the same thing from another point of view, the share which each Indian receives of the national dividend is too small to keep body and soul together in full working efficiency. There is unquestionably the problem of Distribution, which we have accordingly not ignored. Redistribution of the national wealth,—reconstruction of these social institutions which deal with the repartition of riches in a community,—is an urgent necessity, since that alone could benefit the present generation. All other expedients must take time, and will benefit, in proportion that they are successful, subsequent generations. I do not believe in the common cry of interested parties that Socialism is played out. How can it be, when it has never been tried at all? The Russians, it is true, from what one hears of the gigantic experiment heroically embarked upon by the Bolshevics, seem to have inaugurated the New Economic Policy, which is apparently not on all fours with the traditional doctrines of Communism. But, apart from the fact that the so-called N. E. P. of Russia may be only a temporary makeshift pending the full education of the Russian people to complete communism in all material commodities, there is the further consideration that private capitalism, as we know it in European and American countries, as also in those Asiatic countries which have madly begun emulating the European "Civilisation," is dead in Russia beyond possibility of recovery. And what has been tried in one country, there is no reason to doubt may not be tried in another. In India to-day, all reasonable people seem to be convinced that modern industrialism has its dark side. It is not as clear whether the thoughtful

Indian will go back on the history of a century, and recreate the arcadian simplicity of self-sufficient village, life which the apostle of modern India seems to hunger for. Personally, I am not prepared to say that turning our back upon the history of a century is either practicable or desirable, quite apart from the question whether it is going to be beneficial. I think the real evil lies in our defective and objectionable system of distributing the national dividend. Two alternatives are even now possible, and are being tried under various disguises. The co-operative principle seems to make the least breach with convention and the existing situation, by recognising private property and permitting individual gain, subject to a maximum. That principle may seem more reasonable; to me it appears more inherently insufficient. For co-operation in production might not,—does not in fact,—avoid the evils of the wage system, the crime of exploitation of one human being for the profit or benefit of another. It may be tried as the more acceptable to the Capitalism-infected intelligentsia; but I am convinced it must break down eventually, or be voluntarily abandoned when the full consciousness of common life has been aroused or inculcated. The other and rival principle,—though the rivalry is not quite transparent to-day,—is the State Socialism of the Indian Government, with its strange complication of capitalist delegation of administrative authority. The Railways as well as the Land are, in the theory of the law, common property, however they may be managed for the sake of convenience or prejudice. There is nothing to prevent the shipping service to be similarly jointly owned and communistically operated, any more than the coal and iron mines as well as the connected industries. But it is here precisely that the irony of the actual situation becomes most poignantly manifest. The Socialist Nationalist in India cannot trust the Government of India. Its antecedents are dead against it; and so the very best work it has done, and may still be doing, is not only not supported by those, who, like the present writer, ought, for sheer consistency with their own fundamental ideas, to support; but is positively opposed and even objected to. It is the unavoidable penalty of a foreign government to be misunderstood, though unquestionably the Indian Government have done enough to warrant every suspicion against its bona fides. That does not, however, make the Indian Socialist less illogical; and does not the less frequently betray him into advocating policies or supporting measures, which are bound to complicate most undesirably the problem. The penalty is thus acting as a double-edged sword, that with the one edge attacks the Government in all its schemes of common benefit, and with the other paralyses the natural champions of all such measures and policies. The remedy for this hopeless impasse is not strictly economic. We must have a change of Government before we can think of a change in distribution of the national dividend, if only because a foreign government is too apt to ally itself with the forces of capitalism that have done so much to hamper and impair the productive forces of every nation industrialised in the modern sense of the term.

But redistribution of the National Dividend, urgent as the problem is, is not a full and final solution of the root evil. We cannot increase our wealth by the fullest exploitation of our known resources, so as to give a guarantee of decent human life to every Indian citizen. We have so far consented to undermine our vitality rather than to reduce our numbers. There is no inherent guarantee that we shall not increase our numbers, and so undo the benefit of redistribution on a more equitable and equal basis, as also of an increase in wealth if the root evil were not tackled at the root. Emigration of a part of the population of India to less crowded and more promising lands is another solution that I have hinted at in the body of the book. It is, however, a solution which is more important from the standpoint of the entire world than from that of any isolated community. China needs a relief in her population even more urgently than India. And the sparsely populated regions of the world must afford this relief. The concrete sense and strength of the world and its peoples must be used to bring about a more even distribution of the human factor in comformity with the natural factors of production. The League of Nations will have in the immediate future its gravest task in considering the Immigration laws of the world; and if it fails to restrain the suicidal policies, apparently adopted as the considered and deliberate creed of some of the newer democracies of the world, the peace of humanity, the brotherhood of man, will never be achieved.

Herein lies another of the logical inconsistencies that the student of economics to-day seems to be inevitably involved in, in many countries Nationalism has run amok with many people, with a particular venom in those parts where the consciousness of exclusion and exploitation by another race is very intense. But the aggressive, and often inconsistent Nationalism of to-day has this much justification: that the inequalities of resources and possibilities, which will be retained by those who have acquired them by all sorts of means, cannot but be vaguely perceived and resented by those who have not. Within the community, a people may well be expected to correct the faults of their own system of distribution by a reform of their own institutions affecting the National Dividend; they may also be expected as justly to develop their own inherent resources and possibilities before they can lay claim to a share of those who have a surplus of such a degree that waste must necessarily follow if the owners or holders of the surplus do not know what to do with the surplus. But there are many people in the world to-day, who, in spite of the fullest development of their resources, may still not find enough within their own means to maintain a decent standard of human life. The problem then arises whether this section of humanity will be allowed to decline and decay, tainting in its downward course even those other and happier people who may have all they need and to spare. We have not yet risen to that degree of humanity, in which we could suggest the lethal chamber for this surplus section of mankind as the simplest and the surest remedy; and so the demand for a redistribution of the entire population of the world, with a view to relieve pressure where it is unduly heavy, and to bring adequate labour force to bear upon regions which in the absence of that labour force are wasting their resources and potentialities, is likely to sound repulsive. Of course, the problem is extremely complex. We do not want a redistribution merely to reproduce the evils more evenly in the world. We must have guarantees against an undue and undesirable multiplication. And to achieve this, to enforce those guarantees, the concert of humanity will have to be something more than an existence on sufferance. The League of Nations to-day is neither strong nor respected enough for the purpose. And it will not attain to that degree of universal respect until the domination of one people by another is a thing of the past. Paradoxical as it may sound, it seems inevitable that modern nationalism must grow still stouter and more aggressive, if real internationalism is to be established. The psychological value of a consciousness of equality cannot be exaggerated. The dominated peoples of the world lack this consciousness, and are accordingly apt to be unduly, unjustly suspicious. This consciousness must be created first, and Nationalism must therefore flourish in the minds of those who are themselves engaged in the building up of a new religion of humanity.

When the redistribution of the world population has been accomplished; when mobility of labour has been achieved in a far more real sense than is the case to-day, the problem may still remain whether the world is not over-populated, or tends to do so. In fact the real solution of the problem could only commence after this preliminary, pioneer work has been done. Do numbers tend to outrun resources? Is the sum total of human misery and injustice due to the deficit? We cannot, indeed, know the potential waste involved in a deliberate and concerted restriction of numbers; but, as far as we can see to-day, we must bear the penalty, if one there be. The religion of humanity must be founded on the loveable and the beautiful, which the existing apologies for manhood can scarcely pretend to be. The culture of the race by the united effort of the race entire must, to be successful, have the intelligent sympathy and voluntary co-operation of the individual. It is not enough to alter the marriage laws, and reconstruct the basic unit of human society. For the problem of numbers to be effectually solved, for the service of humanity really to become the religion of mankind, there must be a corelation between ability and expectation. We have endeavoured to study this problem on the narrow, limited basis of India; but in reality the problem is a world problem; and, sooner than we like to believe, it is bound to force itself upon the attention of the peoples of the world. The solutions suggested are necessarily solutions for the immediate evils of the individual country specifically considered; and there is nothing to prevent these "solutions" from appearing in the larger perspective of the world entire as miserable palliatives, that might even defeat their own purpose if not strictly regulated. But that only proves that the world problem is more complex and insistent than the thinkers seem inclined to consider.

The University School
of
Economics and Sociology,
Bombay, 15th October, 1924.

K. T. SHAH.

INTRODUCTORY NOTE

The Introduction to this joint-work, written by Professor Shah, is not written by him with a view to "introduce" the work, in the sense of explaining its aim and scope, and the standpoint with which the entire work is written; but merely to correlate some of his suggestions in Book II with the larger problem of the redistribution of the world's human factor, and the reorganisation of human effort, so as to conduce towards a more economic use of the world's material resources, to the benefit of all. And so far the Introduction may be regarded as a continuation of Book II. Those remarks would, however, have been irrelevant if made in the text of Book II which deals with problems exclusively Indian.

The object of this **Note** is to make it clear that the **opinions** stated in the latter part of the Introduction, like those expressed in Book II, are exclusively Professor Shah's own. The undersigned does not subscribe to their implication, not because he is afraid of public opinion or of any opinion, but because he does not believe in political changes being a necessary condition precedent to, or a **sine qua non** of, economic regeneration, and because he has a sincere lack of faith in any radical and socialistic solution of India's ills—not to talk of those of the rest of the world. There are bound to be opinions and opinions, and each one is welcome to his own. It is the inevitable consequence of joint-authorship that the opinions expressed by one of the authors are ordinarily supposed to be shared in by the other to their fullest extent. This Note is intended, so far as it can, to dispel any such supposition.

It is, however, necessary to state,—nay, to emphasize,—that there is a general concensus between the authors as to all matters of facts and statistics expressed in both the parts of the work, and also as to such inferences as are obviously deducible therefrom. There is also agreement on the important problem of the exclusion of Services, **quae** services, from the calculation of a nation's annual wealth.

Subject to the foregoing, the undersigned is responsible for Book I of the present work, wherein apart from incidental inquiries, he has endeavoured, firstly, to discuss the general economic concept of national wealth; secondly, to collect and collate the figures of production of all the principal commodities and of the output of the principal manufacturing industries of our country, for each year from 1900 to 1922, the data being chiefly derived from official blue-books, and all the **lacunae** or defects in official figures being made good by other evidence; thirdly, to calculate all-India average, annual, wholesale prices of the principal commodities in each of these years; and lastly, putting the last two items together, to estimate the gross annual wealth of the people of this country in 1921-2 and three other well-marked periods.

The ground was thus cleared for Professor Shah to discuss, in Book II, such problems as the net wealth of the people, the sufficiency or insufficiency of food grains, the distribution of the wealth between the classes and the masses, the correlation of the tax burdens of the people to their ability to bear them in the light of their economic position; the possible readjustment of tax burdens; and the possible improvements and expansion of the material resources of the country which should strengthen the economic position of our masses while their burdens are lightened.

This work was planned and begun long before there was any talk of moving any resolution about appointing Committees for economic or taxation inquiries, in our Imperial Legislatures; so that it is really by providential circumstances that this work happens to be a **livre de circonstance.**

Professor Pigou has well said: "The complicated analyses which economists endeavour to carry through are not mere gymnastics; they are instruments for the bettering of human life." It is only by analyses such as these that the misery which surrounds us, the colossal poverty into which a very large mass of the population has sunk, can be decisively brought home to those whose duty it is to look after people's welfare, as also to those whose present indifference it would be fairer to attribute more to a lack of knowledge of the real state of affairs than to a lack of sympathy. In this as in other matters, then, social survey must precede social service.

School of Economics and Sociology,
University of Bombay,
15th October 1924.

K. J. KHAMBATA.

CONTENTS

BOOK I

THE WEALTH OF INDIA

PART I

A CRITICAL DISCUSSION OF THE GENERAL ECONOMIC CONCEPT OF NATIONAL WEALTH

CHAPTER I

The Concept of National-Wealth

Page.
1. Economic Terminology 1
2. What is a "Nation?" 2
3. Confused popular notion of "wealth" 3
4. Relativity of the term "wealth" 3
5. Evolution of the technical connotation of "wealth" 4
6. The conception of "national wealth" 5
7. National wealth and individual wealth 6
8. Some important distinctions 7
9. Intangible wealth 8
10. A narrower sense of the term "intangible wealth" 9

CHAPTER II

Distinction between Capital-Wealth and Income-Wealth

1. Distinction between Capital and Income-Wealth 12
2. "National Wealth" simply, means the "capital" wealth 12
3. Capital-wealth and Income-wealth and methods of computing them .. 13
4. Illustrative Data 15

CHAPTER III

The Concept of National Income

1. Want of concensus as to the meaning of "income" 20
2. Things produced or consumed? 20
3. Is income ever subjective? 21
4. Analysis of Dr. Marshall's concept 22
5. Criticism of these definitions 23

CHAPTER IV

Problem of the Inclusion of "Services" in a Computation of National Income

1. The conventional attitude with regard to "services" 25
2. The Paradoxes it gives rise to 26

Page.
3. Danger of "double counting" 28
4. Why "services" are excluded by us 28
5. Our concept of national income distinguished from the conventional .. 29
6. Two objections to our plan 30
7. First objection : Why not have a money expression of "services" ? .. 31
8. The plan suggested further criticised as involving us into absurdities .. 33
9. What gives rise to the idea that "services" are measurable in money .. 35
10. Distinction between commodities and services as regards their measurability in money 36
11. Additional arguments to show the inadequacy of money in measuring "services" 37
12. Second objection : Why ignore the work or services of non-industrial classes ? 38
13. What is meant by "productive"? 38
14. Controversy between Adam Smith and his critics apropos "productive" .. 39
15. Our definition of "wealth" 40
16. Utilities which may be regarded as "wealth." Analysis of Mill's discussion 40
17. Labour involved in the production of injurious things 44
18. Examination of utilities created by the different kinds of "services" .. 44
19. Why the non-industrial classes are excluded by us 48
20. The National dividend is *the* Wages fund 49
21. Conclusion 50

CHAPTER V

"Gross" and "Net" Income

1. Ordinary meaning of "net" and "gross." 51
2. Is it value or physical efficiency that is to be "kept intact?" .. 51
3. Expenses for "training" the worker. 51
4. Should cost of keeping up human efficiency be deducted ? 52

CHAPTER VI

Summary of Part I

PART II

MEASUREMENT OF THE WEALTH OF INDIA

AGRICULTURAL SECTION

CHAPTER II

Introductory

1. Popular Conceptions of the Wealth of India 58
2. Previous Inquiries relating to the Wealth of India. 61
3. Scope and Extent of the present Inquiry 68
4. Plan and Method of the Inquiry 70

CHAPTER II

Economic Geology and Geography of India

1. Influence of Natural factors on production 72
2. The Geological regions of India, and their bearing on minerals and production 73

Page.
3. The Superfices: Influence of Soils 74
4. Influence of Forests 77
5. Climate 78
6. Influence of the situation factor on Trade and on the distribution of industries 79

CHAPTER III

Agricultural Wealth—Quantitative Data

1. The Utility of Quantitative Data 83
2. Quantitative data; how obtained 84
3. Cautions to be taken in using Official Figures of the Yield 85
4. Utility of the column of Errors 86
5. How the coefficient of Error is calculated 87
6. Rice and Wheat 89
7. Minor Food Grains 92
8. Raw Sugar 94
9. Oilseeds 96
10. Fibres 98
11. Dyeing and Tanning materials 102
12. Drugs and Narcotics 103
13. Fodder Crops 107
14. Fruits and Vegetables 109
15. Condiments and Spices 109

CHAPTER IV

Agricultural Wealth—Valuation

1. Methods of Valuation (Rupees and Food units) 110
2. Fluctuating price levels 110
3. Price Statistics available 112
4. Price-ratios adopted for our calculation 113
5. Food-Crops—Rice and Wheat 114
6. Food Crops (Contd.)—Minor grains 116
7. Raw Sugar (gur) 117
8. Price Valuation of Oilseeds 119
9. Fibres 120
10. Dyes and Tans 123
11. Drugs and Narcotics 124
12. Fodder crops 126
13. Fruits and Vegetables 127
14. Condiments and Spices 129

CHAPTER V

Checks of Quantity and Value Figures

1. Checks by figures of Foreign Trade 131
2. Checks by figures of Inland Trade 131

CHAPTER VI

Other Inquiries in connection with Agriculture

Page.
1. (A) Relative encroachment of food and non-food crops—Area under Crops .. 135
2. Likelihood of higher demands for India's non-food crops. 136
3. (B) Possibilities of Extension of non-food crops—Exports of non-food crops.. 137
4. Ways of bringing about their extension 138
5. (C) Income from Cattle and other animals.—Forms of Income.. .. 140
6. Hides and Skins 141
7. Manure 142
8. Meat, Game and Fowls 142
9. Milk 143
10. Accretions to live stock 145
11. Upkeep of Cattle and other animals 146
12. Net income from cattle, etc., and its significance 147

CHAPTER VII

Forests and Fisheries

1. Area and Utility 149
2. Timber 150
3. Minor Forest Produce 152
4. Turpentine and Rosin 153
5. Dyes and Tans 154
6. Caoutchouc 154
7. Other forest industries—sandalwood oil 155
8. Lac 156
9. Estimated total income from Forests 157
10 Fisheries 158

CHAPTER VIII

Summary of Part II

1. Retrospect 160
2. Summary of Quantity figures 161
3. Summary of Value figures 162
4. Deduction for seeds, etc. 163
5. Agricultural Improvement 164

PART III

NON-AGRICULTURAL SECTION

CHAPTER I

Industry and Commerce—General Discussion

1. Survey of India's principal manufacturing industries 166
2. Whether profits from commerce ought to be included in an estimate of wealth.. 170

CHAPTER II

India's 'Industrial' Wealth—The Principal Manufacturing Industries

Page.

1. Textiles 173
2. Food and drink 176
3. Other manufactures 177
4. Power Supply 179
5. Engineering Industries 180

CHAPTER III

The Mineral Wealth of India

1. Metalliferous Minerals 181
2. Carbon and its compounds 182
3. Other minerals 184
4. Gems 185
5. Value of mineral products 185

CHAPTER IV

Other Items of Non-Agricultural Wealth

1. Handicrafts 187
2. Transport 189
3. Town Wealth 189

CHAPTER V

Summary of Part III

1. Retrospect 192
2. Summary of the value of manufactures 192

PART IV

GENERAL SUMMARY AND CONCLUSIONS

1. Comparison of the four periods 194
2. Summary of Quantity Figures 197
3. Summary of value figures 199
4. The Wealth of India in relation to the population 200
5. Charges on Income 202
6. Conclusion 203

BOOK II

TAXABLE CAPACITY OF INDIA

CHAPTER I

Deductions from the Gross Wealth

Page

1. Rationale of the Deductions:—First Charge 205
2. The Root Vice of Money Valuation 209
3. Deductions specifically considered 209
4. The Public Revenues—Are they a deduction ? 210
5. The Home Charges 211
6. Economic Deductions 215
    (I) Interest on Overseas Capital 216
    (II) Payment on account of Freight—both Coasting and Overseas .. 222
    (III) Payments on account of Banking Commissions 231
    (IV) Profits etc. of Foreign Business and Professional Men in India and the Savings of the Public Servants 232
    (V) Miscellaneous 233

CHAPTER II

The Net Residue

Human Needs of Labour in India

1. The Net Remainder 237
2. The Human Needs of Labour 240
3. Actual Conditions in India 243
4. The Food Resources of India 251
5. The Full Significance of a Low, Inadequate Production 252

CHAPTER III

Taxable Capacity

1. The Total Revenue Burden 255
2. A Brief Analysis of the Indian Public Expenditure 262-63
3. Central Expenditure in detail 264
4. Interest on Debt 272
5. The Origin of Indian Debt 273
6. Means to reduce the Ordinary Debt 276
7. Railway Expenditure 279
8. Posts and Telegraphs 280
9. Details of Provincial Expenditure 281
10. The Real Incidence of Taxation in British India 282
11. Detailed Consideration of the Distribution of the Tax Burdens .. 288

CHAPTER IV

The Distribution of the National Wealth of India

Page.
1. Distribution of the Peoples of India by occupation 293
2. Statistics of Income-tax 295
3. Agrarian and other Incomes escaping Income-tax 298
4. Incomes below the Minimum of Exemption 302
5. Distribution upwards 305
6. Suggestions for redistribution 307

CHAPTER V

The Potential Wealth of India

1. The Agricultural Resources of India and their Improvement 309
2. Irrigation in India 315
3. Improvement in the Size of Agricultural Holdings 319
4. The Forest Wealth of India 327
5. The Mineral Wealth of India 330
6. Fisheries and Fishing in India 333
7. Industrial Potentialities of India .., ... 334
8. A Revised scheme of Distribution necessary 336

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BOOK I

THE WEALTH OF INDIA

PART I

A CRITICAL DISCUSSION OF THE GENERAL ECONOMIC CONCEPT OF NATIONAL WEALTH.

CHAPTER I

The Concept of National Wealth

1. **Economic Terminology.**—The science of Economics has no technical terminology of its own,[1] and must needs express itself in terms whereof popular usage has taken complete possession. For one thing, this must necessarily be so with a social science like Economics which must, to be intelligible to the general reader, express its reasonings in popular language. But popular language at the same time will be unsuited for the least scientific of purposes,—and Economics claims to have developed into a "science"—because the first requirement of a scientific treatment is that our terms shall be well defined. while the terms in popular usage have several meanings or shades of meaning. It is therefore essential in any economic argument to have consistent and clearly defined notions.[2]

Among the terms of popular usage of which economics makes use, perhaps of the most vague and indefinite, are the terms **wealth, (nation,)** and **national wealth**. Attempts to define them have not, however, led to uniform results, and it is a distressing circumstance that there is no concensus among economists as to the definitions of these terms.

And as for ourselves, as there cannot be a "measurement of national wealth" without it being initially ascertained what we mean by **nation** by

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[1] The original idea of Economics was rather as an applied science (if not an art) than as a pure science. Consequently, the founders of the science did not much care to define terms precisely or to evolve a distinct terminology.—cf. Sidgwick's **Principles**, P. 16.

[2] As Dr. Marshall suggests, a term must always mean a particular thing whenever nothing to the contrary is stated, or implied by the context; while if it is required to be used in some broader or narrower sense, the change must be indicated. This plan will enable us to avoid rigidity.—**Principles of Economics**, II, I, 4.

wealth, and by the compound term **national wealth,** it behoves us to discuss them here.

2. **What is a "Nation?"**—And first as regards the term **nation.** This is properly speaking a politico-legal term; but if any one were for that matter under the impression that it has come to have any precise significance in politics or jurisprudence, one need only consult elementary text-books on the subjects, like Leacock's or Gettle's or Salmond's, in order to be immediately disillusioned. In economic discussions, however, "the old tribal significance of the word **nation** has entirely disappeared. We do not attempt to compare the wealth of French or German citizens wherever they may happen to be. What we do compare is the wealth of the inhabitants of France or Germany, whether they are citizens or not."[1] And in economic discussions again, a nation becomes too often identified with a group of people surrounded by a fiscal barrier, a customs line; partly because the publication of statistics relating to customs receipts and to trade makes us think of the people inhabiting each customs area as an ensemble or a unit.

But the question here arises if the inhabitants have considerable property abroad or derive considerable revenues from abroad, are such property and such revenues to be considered as part of **their** wealth or the wealth of those countries where the property is situated or whence the revenues are derived? [2] (For instance, the Suez Canal shares or the shares of the Anglo-Persian Oil Company held by the British Government or the British Public.)

So far as capital wealth is concerned, property situated within a country must be regarded as part of its wealth, even if it is owned by persons who are not residents therein, because we are not considering the question of distribution and all that we are at present concerned with is the amount of capital **available** within the country. But in the case of income-wealth a distinction may be made between the productivity of the country and its net income. "When we are thinking of the productivity of a country, the better method is to exclude income drawn from without", says Dr. Bowley.[3] So also must we not exclude income sent abroad. When, however, we are thinking of the income **available** for use and enjoyment by the inhabitants of the country, we must take into account the visible and invisible exports and

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1. Cannan, **Wealth**, pp. 225-6.

2. In the United Kingdom the principle is to tax all incomes derived from abroad. Under the British Income Tax Schedule D, interest on foreign and colonial securities is chargeable on the full amount received in the year of assessment, while foreign and colonial possessions are chargeable on the amount received or imported on the average of three years. This is the general principle of taxation in most other countries as well.

3. **The Measurement of Social Phenomena,** p.202.

imports. The reason why we thus distinguish between capital-wealth and income-wealth is that income is, while capital is not, susceptible of an idea of "gross" and "net".

3. **Confused popular notion of "wealth."**—Next as regards the term **wealth.** Professor Geddes once remarked that it is one of the signs of the absolutely wrong educational system of ours that we take refuge in the broadest and vaguest term when trying to state a fact. He referred to the word **disease.** He might as well have referred to the word **wealth.**

"Everyone," writes J. S. Mill[1] "has a notion sufficiently correct for common purposes of what is meant by wealth." He further wrote that it was no part of the design of his treatise to aim at metaphysical nicety of definition where the ideas suggested by a term were already as determinate as practical purposes required. But here was a mistake on Mill's part; we do not need any "metaphysical nicety," but we assuredly do need logical accuracy. And the ideas suggested by the word **wealth** are so varied and numerous, changing with a change of the purpose to which the term has to be put, that it would be courting confusion and illogicality to shelve that question in a treatise on a subject which till the other day was defined as "the science of wealth." The scientific value of such a work must needs suffer. In its vague sense everybody may have a sufficient notion as Mill asserts. But no sooner do we begin to analyse our concept than we find the task bristling with difficulties. Ask some persons what they mean by **wealth** and you will find that they mean an infinite variety of things; generally and for the most part bullion and money, and even only coins; but also material commodities like lands, houses, furniture, jewellery, etc., etc., industrial output; commercial advantages; material well-being; material **and** spiritual well-being, etc. As to which of these notions would be uppermost would depend upon their temperaments, and their preoccupations for the moment. People of the stamp of Ruskin, for instance, would maintain that "there is no wealth but life."[2]

4. **Relativity of the term "wealth."**—The truth about the matter seems to be that the word **wealth** is susceptible of different senses according to the **purpose** we have in hand. The meaning it bears in a particular case can only be explained "with reference to the context." When we speak of the great store of **wealth** lying in such and such a temple we mean nothing more than gold, silver and jewellery. When we talk of a person's wealth we probably mean no more than the sum of his material belongings, his investments, and his cash in hand and at the bank; (also such immaterial things as

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[1] Mill, Principles P. 1. (Ashley's Edition of 1921.)

[2] Ruskin, Unto This Last p. 156.

goodwills, patents, copyrights.) When we think of production we are inclined to include its wherewithals: the plant, factories, workshops, mills, under **wealth.** When Distribution is uppermost in our thought, the plant gives place to the yield or output; when exchange, money and all circulating media. Again **wealth** may mean the things themselves or their money-value; and it may, further, consist of things that exist or also those whose use **is potential** only, e.g. contents of mines discovered but not yet worked up. It may have reference to material things only or immaterial things also. It is not unusual to speak of the great wealth that a man has in his children—"These are my jewels!"—or that health is wealth. "The bodies of men are without doubt the most valuable treasure of a country," wrote Davenant [1], and such expressions have been common enough whenever political causes have created anxiety for a rapid growth of the population.

5. **Evolution of the technical connotation of 'wealth.'**—Etymologically the word wealth is, as is well-known, the same thing as weal or welfare, a particular **state** of body or mind. But as this welfare was dependent upon the possession or periodical receipt of external objects like bread, meat, clothes or money, it came to be applied to these objects, so much so that the earlier meaning was forgotten, as is seen from Dr. Johnson's definition of the term as "riches, money or precious goods."[2] The Mercantilists are supposed to have identified wealth with bullion and to have made the wealth or poverty of a nation depend upon the quantity of bullion it possessed; but the allegation is not true of the whole school as such.

However, the term **wealth** was and is always restricted to objects with an exchange value, and "free goods" have generally been excluded from its comprehension. Quesnay, the leading Physiocrat, was thus careful to distinguish between **richesses** and **biens gratuits.** Things for which nothing could be got in exchange, however useful, are not wealth. Even this restriction has not been unanimously agreed to, but the dissentients are few.

But apart from this limitation there is a hopeless divergence of views on the question, what is wealth? Mill's definition of wealth, as consisting of "useful and agreeable things which possess exchangeable value"[3], is defective in that usefulness and agreeableness are relative qualities, and nothing definite can be said about any term which is defined in such words.

In order to avoid confusion of thought, the later economists, and especially Dr. Marshall, attempt to differentiate the various ideas included under **wealth,** by giving each a qualifying adjective, and we thus have **material**

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[1] Quoted by Marshall II, II, 3 (footnote).

[2] *Vide* Cannan's **Theories of Production and Distribution.** Ch. I.

[3] Mill **Principles,** P. 9.

wealth, personal wealth, intangible wealth and so on. Dr. Marshall is of opinion, however, that **wealth** simply, should always mean **external** wealth only, that is, not necessarily **material** wealth but chiefly so.[1]

As the subject of the thesis is not **wealth** but **national wealth,** we do not intend to enter into a needless discussion of the former. Deferring a few comments to an appropriate point in Chapter IV, we shall now pass on to the latter term, recording our opinion, **en passant** that Marshall's plan, though good in some ways, is not strictly logical, nor quite in consonance with popular usage as he claims it to be[2], because he includes under the same term (wealth), both the **end** (material goods), and some "**means** of enabling him to acquire" the same; and also because in the usage or ordinary life it is **materiality** and not **externality** that is at the root of the concept of wealth. We therefore deem it proper to define **wealth** as consisting of **external and material things**; or more simply, **material things** only, since all material things are also external. Thus we do not identify wealth with **economic goods** as Marshall does, but consider the former to be a species of which the latter is the genus.

6. **The conception of 'national wealth.'**—In all discussions, it has been recognised that there is some difference between the idea of individual wealth and that of national wealth. And while in the former case the restriction of the denotation to things with exchangeable value only has been readily accepted, in the latter case an acceptance of this restriction is far from being universal. No one can object to counting as part of a nation's wealth its parks, gardens, roads, museums, libraries, hotels de villes and other public places, which, though they may be **biens gratuits** for you and me, though "freely enjoyable," do have a money value, and constitute the forms of **national** wealth par excellence, being possessed by the nation **tout ensemble.** But the question at once arises whether a healthy climate, exquisite natural sceneries, commercially important waterways, rich soil, advantageous topography, accessibility to the sea, central situation **vis a vis** the other nations[3]—not to speak of a stable government, the prevalence of justice, law and order, an excellent administrative organization, a high sense of civic and commercial morality, national prestige etc.,—should or should not be

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[1] Marshall II, II, 3.

[2] *Ibid*, II, II, 2.

[3] It is not always apparent what an important part natural factors play. In the 17th century, the wealth of Holland was the wonder of Europe, and the more the wonder grew as it was then believed that she had not only no natural advantages but had on the contrary to wage a perpetual war against Nature. (It is not generally known to-day that the great arm of the sea, known as the Zuyder Zee, was formed in a *single* night, submerging acres of the most fertile land—which gives the lie to the adage *natura-nihil facit per saltum*—). But the 17th century Europeans had forgotten the situational factor!

categories of a nation's wealth; even whether, in Ruskin's language, a full-breathed, bright-eyed, happy-hearted people is not wealthier than one possessed of mere material-wealth [1], but deficient in physique and in the qualities of the head and the heart!

But whether because the degrading materialism of the age is too much with us, or because of a real desire to keep consistently to the denotation of the genus **wealth** itself, economists have generally taken the term **national wealth** to denote only the material and tangible goods directly capable of an exchange-value. Not only are, therefore, excluded the free gifts of nature spoken of before, and the non-economic factors spoken of in parenthesis along with them, but are also excluded business connections, business organization, and industrial energies, habits, capacities and faculties, which make up "efficiency"; (though these last may be allowed a place in **wealth** in the **broad** sense.)

These restrictions are not always accepted, but they must needs be if it is sought—as in this thesis—to measure national wealth in terms of pounds, shillings and pence or the like. From the purely statistical point of view that our purpose requires us to take, we must adhere to the "narrow" definition of wealth, as they call it, i.e., that definition which excludes all non-material, as also all non-exchangeable elements, on which German economists lay so much stress; for instance the organization of a free and well-ordered state.

It is however necessary in certain cases to take a **broad** view of national wealth, and then it may be permissible to speak, as Dr. Marshall does, [2] that "we ought for many purposes to reckon the Thames a part of England's wealth," because it "has added more to the wealth of England than all its canals, or perhaps all its railroads". [3]

7. **National wealth and individual wealth.**—The elements of national wealth are not all identical with the elements of individual wealth. There are some elements of the former which are not elements of the latter; first and foremost, all kinds of public property and institutions, roads, canals, buildings, waterworks, museums, navies, etc.; secondly, business enterprises run by the State authorities **pro bono publico**; thirdly, the land in countries where the whole of it is under state ownership; fourthly, what is called

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[1] "The true veins of wealth are purple—and not in Rock but in Flesh."—Ruskin, **Unto This Last** pp. 64-5.

[2] Marshall, II, II, 5.

[3] In a statistical computation the value of free gifts will, so far they are "valuable," be generally included in the enhanced value of the land. Thus the value of a river is reflected in the higher value that lands have in its basin or on both sides of its course, than they will have in its absence. On a parity of reasoning the value of fine climate will also for the most part be included in the value of the land. But if any one would scruple to object that land itself is a free gift, the difficulty may be technically overcome by speaking (with Held) about the "labour of appropriation". At any rate in settled countries land is no longer a free gift.

social private wealth, such as churches, clubs, etc. **Per contra,** all shares debentures, mortgages, etc., which will be counted in the wealth of an individual who holds them, will be omitted from the wealth of a nation, because there are equal debts and obligations on the other side of the balance. Thus we shall not have to reckon any government paper held by individuals within the state in the total national wealth, because they will all be cancelled by a corresponding collective debt on the debit side But while debts and obligations of members of a community **inter se** must be thus omitted from the total national wealth, we have nevertheless to reckon in all foreign bonds held at home. deducting of course, all our bonds held abroad.

8. **Some important distinctions.**—Talking of national wealth, it is here well to point out several important distinctions.[1]

In the first place, the term **national wealth** may have a reference either to the aggregate wealth or the average or **per capita wealth.** One country may have greater wealth than another in the aggregate, and may have less wealth **per capita.** To compare the two we must, of course, look to the latter But in computations of the wealth of England from the time of Petty downwards, the term national wealth has always been understood to imply the **aggregate,** and not the average wealth "To general opinion in the first half of the XVIII century the plan of creating an imaginary average individual as the representative of the nation would have appeared strange and incomprehensible."[2] There were no doubt economists like Adam Smith, Malthus, Bentham, and James Mill, who pointed out the distinctions; but despite them there was perceptible a tendency in the (especially early) XIX century economists to speak of "increase" or "decrease" of wealth aggregately, irrespective of the number of the sharers of that wealth.

In the second place, coming now to denotation, there is a difference between **national wealth** as meaning the value of the objects found within the boundaries of a country, and the same term as meaning the wealth of its inhabitants (including their foreign possessions and excluding wealth within held by foreigners.) This distinction is made clear by Dr. Stamp.[3] In the case of India there is very little foreign property held by our people; but there is certainly a good deal in India held by non-Indians. Yet if one were not concerned with the problem of distribution and were primarily interested in the wealth of the country as such, irrespective of in whose hands that wealth was distributed and in what proportions, one need only concern oneself with the value of the objects found within the country. As pointed out on page 2 **ante** we shall be looking to the country as the entity, and shall concern ourselves with the income-wealth of **India**, rather than of the **Indians**.

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[1] The distinctions apply both to capital-wealth and to income-wealth.

[2] Cannan, **Theories of Production and Distribution** p. 11.

[3] Sir J. C. Stamp, **Wealth and Taxable Capacity** pp 7-8

In the third place, the term in discourse may be used to denote either the **present** wealth of a country or its **potential** wealth. Thus we may speak of Germany as richer than Russia, which is true of the present, but we may in the same breath speak of Germany as a poor country and Russia a rich one, meaning thereby that Russia has immense resources behind her, that if and when they are properly exploited they would yield a great deal, while Germany has little left in her mines, forests, etc. Considering potential resources, therefore, one country may have a greater future before it than another, though the latter may to-day be the richer one. Though **wealth** has always reference to the present wealth, there is yet a loose way of meaning by it the potential wealth, without "anything to the contrary" being expressly indicated. One often hears, yet, the vast "wealth" of India being spoken of! The term can only relate to the potential wealth; in any other sense, it would be clearly inapplicable.[1]

9. **Intangible Wealth.**—Before we pass on to the next chapter wherein we treat at length of the difference between capital-wealth and income-wealth, we may be allowed to say a few words about intangible wealth which applies to both those concepts.

We have remarked in the foregoing pages that free gifts of nature, and non-economic factors, and also such things as business connections, organization, efficiency, etc., are not, strictly-speaking, **wealth.**

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1. Mr. Ingalls, (**Wealth and Income of the American People**, pp. 307-9.), estimates the potential wealth of the United States at 150 billion dollars from which the U.S. government may expect to derive 12,000 million dollars every year in the shape of royalties. Details include coal, crude oil, shale oil, phosphate rock, potash, water-power, forest resources and timber, and other land that can be made available for cultivation or grazing. The officers of the Geological Survey of India have made some estimate of the potential mineral wealth of India; that was as far back as the eighties of the last century. And one never knows what changes new inventions and improved processes may bring about. For instance, some years back it was strongly believed that the gold in the Kolar mines would soon be exhausted; but intensive mining has since then revealed new seams hitherto quite unthought-of; so that now it is believed that by going still deeper they may get still newer veins of wealth! Estimates for gold, coal, iron ore, etc. are subject to frequent revisions. Any such estimates will give only a very rough idea of a country's potentialities. The present value of assets with deferred realizability is very little, so that if these can be realized only after 30 years (which is the conventional period), their present value will be almost nil. Mankind appears to look ahead for 30 years only !

Our foregoing remarks may lead one to believe that we do not regard the intangible forms of "wealth" as of any value at all. The belief would be a mistaken one; for we regard them as of the highest importance; but only that we refuse them the appellation of wealth. So far as our inquiry is concerned, therefore, we can only confine ourselves to what categories are susceptible of a statistical computation. And even as to material things, only those articles count, which are not only exchangeable, but are in fact exchanged and have an exchange-value measureable with the monetary rod.

Some of the intangible things, e.g. air, climate, heat of the sun, can have value only in use, and no value in exchange—although the utility value may be even infinite. Some others may by a stretch of imagination be given a money value, but that will be an unreality. It may, for instance, be possible to count the value of the business connection of a solicitor or of a physician as the equivalent of the income he would lose if he were deprived of it; or the value of a nation's prestige as equal to the loss in trade etc., that it would suffer if the prestige is lost or diminished. But isn't that unreal, far-fetched, uncertain, illusory, and of no avail? One can as easily measure the fluid contents of a vessel by a unit of length! Let us not therefore deceive ourselves with regard to intangible things. Dr. Marshall says that "the question whether it is ever worth while to speak of them as **wealth** is merely one of convenience, though it has been much discussed as if it were one of principle." But their exclusion in our case is justified both on principle and from—not mere convenience, but—necessity. It is not every thing that can rightly be included under **wealth** which term has come to have a restricted meaning. It may be more appropriate to call these intangible things "non-material goods."

The matter will stand on a different footing if the object is a broad and comprehensive sociological survey of the causes and constituents of a Nation's wealth. But this mighty task is not our object; nor does the science of Economics pretend to undertake it, though in such works as Professor Pigou's **Wealth and Welfare**—where the author attempts to correlate welfare to the national dividend—it does take a considerable step in threshing out the problem on its purely economic side. In such discussions, intangible things will have the importance or priority they deserve. But it would be idle in a work like the present to make much over them. It is enough if we recognise their importance in bringing about national welfare even in its economic sense.

10. A narrower sense of the term 'intangible wealth.'—There is however a narrower sense of the term **intangible wealth** in which it is identified not with the whole of non-material goods as above, but with only those that are objective or external.[1]

Thus Mr. Ingalls talks[2] of such things as the fame of a good newspaper managerial experience, patents, copyrights, trade-marks etc., which as such have no value, but which acquire one immediately a company is formed to own them (especially patents)[3]. In connection with this it may be remarked that if estimates of wealth had been based upon the earnings of professions, businesses, and other commercial enterprises, the value of the intangible assets would have been roughly included. But this is not done usually, and valuations give only the amount of **capital** invested in these businesses or professions. Thus Sir L. G. Chiozza-Money takes only one-half of the profits of "businesses," and capitalizes it at ten years' purchase; while Mr. Crammond, following Giffen, takes only one-fifth of the profits from "Trades and Professions," and capitalizes it at fifteen years' purchase.[4]

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[1] The following classification, based on that of Marshall, will serve to explain terms better:—

GOODS	MATERIAL—	*External*, (*A*)	*e.g.*, all tangible commodities, physical gifts of nature, and all rights to things.
	NON-MATERIAL OR PERSONAL	*External*, (*B*)	*e.g.*, relations beneficial to their owners **vis a vis** other people, like good wills, business connections of traders and professional people, reputation, organization, etc.
		Internal, (*C*)	*e.g.*, a person's qualities and faculties for actions and for enjoyment, business ability, professional skill, the faculty of deriving recreation or knowledge from music or reading, etc.

"Wealth simply" or "wealth proper" as defined by Marshall, consists of class A, and such categories only of class B as would enable us to acquire material goods (of the kind in class A). Thus personal friendship will be excluded as having no direct business value, but business connections and organisation will be included. But as this is practically the whole of class B, **wealth** in Marshall's sense may be said to consist of classes A and B. (As pointed out on p. 5, we confine the term to **exchangeable** items of class A only). "Wealth in a broad sense" coincides with "goods." "Intangible wealth" in the broad sense comprises classes B and C, i.e. all non-material goods. Lastly, "intangible wealth" in the narrow sense coincides with class B only—class C being not **wealth**. Thus you can either think of it as (A plus B) minus A, or (B plus C) minus C, i.e. as "wealth proper" minus material things; or non-material things minus those that are purely subjective or internal.—cf Marshall, II, II, 1 and 2.

[2] *Op. Cit.* pp. 155-6.

[3] But Mr. Ingalls' inclusion of patents, copyrights, and trade-marks, in his conception of intangible wealth is not happy. He only refers to the **idea** of the invention or process, the **form** of the literary expression, and the **quality** or **excellence** of the thing denoted by the trademark. But the lay reader is apt to confuse the **idea** with the invention, the **form** with the expression, and the excellence with the thing itself; the latter of which are all forms of material goods. He is therefore likely both to confuse and to be confused.

[4] *Vide* Dr. Stamp, **British Incomes and Property** pp. 393-5. Also Giffen, **Growth of Capital** p. 23.

The objection to the inclusion of intangible wealth in this narrow sense is the same as in the case of that in the "broad" sense. These forms of "wealth" are very fragile, and may vanish altogether, as they did in Bolshevik Russia, in a few months.

All these reasons make it necessary to define national wealth as consisting of external, material and tangible commodities only.

So far, we have explained the term national wealth in all its bearings, and have shown the different ideas which the term has been used to indicate by different writers. The moral therefore follows, that in reading any literature bearing on "national wealth," one must always be careful to ascertain what precisely it is that the author means by the term. Dr. Stamp [1] remarks how, in polemical literature, estimates of wealth of the United Kingdom range from £10,000 millions to £24,000 million sterling! Such great variations are only due to the absence of any conventional denotation of national wealth, so that partisans who are out to prove their point are always best pleased with an extreme figure!

Stamp, Wealth and Taxable Capacity, p. 2.

CHAPTER II

Distinction between Capital-Wealth and Income-Wealth

(*With Illustrative data for the U. K. & other Countries.*)

1. **Distinction between Capital and Income-wealth.**—In the preceding chapter we pointed out several distinctions in connection with the term **national wealth.** There, however, remains to explain the most important of them all: the distinction, namely, between capital-wealth and income-wealth.

This distinction obtains as well in individual as in national wealth. Either we may be talking of the value of a person's possessions at a given moment, or we may be talking of his income or receipts in a given period of time. Similarly, we may frame estimates of the total value of objects within the country itself at a given moment, or of its income, that is of the value of its in-comings, or the yield, or proceeds, or revenue it obtains from all of them in the course of, say, a year. The distinction though important, is simple to comprehend: the distinction, to use Professor Walker's words, between a **fund** at a point of time and a **flow** during a period of time.

2. **"National wealth" simply, means the 'capital' wealth.**—Computations generally made of the wealth of countries are with regard to their **capital-wealth,** and not their income-wealth. Witness, for instance, the estimate of Sir Robert Giffen, of Mr. Edgar Crammond, or of Sir J. C. Stamp, for the United Kingdom. Indeed, from the time of Petty downwards, computations of **national-wealth** are those of the **capital-wealth.**

The first to point out this distinction were the **Physiocrats,** whose insistence on agriculture led them to think of periodical receipts or production of goods rather than of accumulated stocks [1]. Quesnay in his famous **Tableaux Economiques** takes the **richesses annuelles** of the nation as his subject matter. Adam Smith follows Quesnay in regarding 'the annual produce of the land and labour of the society' as its **real wealth.** He lays stress on these annual returns in more than one place in his book, though he seems to be unaware of the fact that his practice is different from the ordinary one. After

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[1] *Vide* Cannan's **Theories of Production and Distribution** pp.14-8.

Smith's time economists were not unanimous as to what should be meant by the term **national wealth.** Pulteney, Colquhoun, Spence and J. S. Mill meant by it the capital-wealth while others like James Mill meant the income-wealth [1].

It is only recently that, thanks to the efforts of Sir Robert Giffen and others, a clear-cut distinction has come to be recognized in all discussions; so that people now speak less glibly about "national wealth," and are careful to state whether it is the **Capital-wealth** of a country that they are talking about, or its **annual** (or **income**) wealth.

Professor Cannan gives a good reason why the term national wealth should denote the income and not the capital of the country. He writes: " 'Production' and 'the production of wealth' which are always treated as the same thing, are primarily at any rate the production of income, because capital is never considered as directly produced, but as being saved or accumulated from produce or income. 'Distribution' and 'the distribution of wealth' are still more plainly the distribution of the income and not of the capital of the nation; it is not the capital but the income which is distributed into rents, wages and profits."[2] But as Cannan's logic has not been acceptable to all, it will be well, in order to avoid confusion to make use of the terms **capital-wealth** and **annual wealth** (or **national dividend**), to denote respectively the capital of the nation and its annual income.[3]

3. **Capital-wealth and Income-wealth and methods of computing them—** In computations of capital-wealth are included money valuations of public

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[1] J.S. Mill declared (in his **Essays on some unsettled questions in Political Economy**, p. 82) that "the wealth of a country consists of the sum total of the permanent sources of enjoyment, whether material or immaterial, contained in it."

While James Mill, in his reply to Spence's **Britain Independent of Commerce**, wrote: "Mr. Spence has an extremely indistinct and wavering notion of national wealth. He seems on the present occasion to regard it as consisting in the actual accumulation of money and goods which at any time exist in the nation. But this is a most imperfect and erroneous conception. The wealth of a country consists in her powers of annual production, not in the mere collection of articles which may at any instant of time be found in existence."—Quoted by Cannan, *op. cit.* pp. 17-8.

Generally, statisticians meant the capital-wealth, while economists meant the income-wealth.

[2] Cannan, *op. cit.* p. 18.

[3] cf. Marshall, VI, I, 10.

and private lands, farms, houses, buildings, and real estate generally, mills, factories, implements of all kinds, quarries, mines, iron works, waterworks, gasworks, canals, docks, fishing, ships, railways and all kinds of conveyances, clothing, furniture, jewellery, valuations of all foreign (and colonial) investments both on public and on private account; to those are generally added valuations of all other miscellaneous trades and businesses, while foreign obligations both public and private are deducted. Care is taken to avoid double reckoning.

On the other hand, in making calculations about the income-wealth of a country, account is taken only of the proceeds, yield, returns, production, or output, from all those sources in a year.

There are various ways in which the national capital is calculated [1], and each has its applicability under different conditions. In countries with a highly developed income-tax system, as in England, computations have been generally based on data arising through income-tax statistics, the income from each item being capitalized at various number of years' purchase. In the United States the method is more direct; owing to the universal prevalence there of property tax, estimates are usually based upon data arising through the taxation of capital. In France and Germany owing to the absence of any one outstanding tax system, the method is still more direct, and estimates are but an inventory of the various forms of wealth. In Australia they have a Census.[2] These are the chief methods, but none is or can be exclusively applied; each requires to be supplemented (or confirmed) by some other methods (or auxiliary tests,) and statistics of death duties, savings, insurance, customs duties, trade, consumption, etc., have to be pressed into service.

As to the computation of national income, also, there are various methods, the simplest would be that based upon statistics of income-tax returns, as in England. But any tax (e.g. consumption tax) will give good results provided it is comprehensive or complete and efficient. Completeness or comprehensiveness is, however, a desideratum which is not possible in entirety; especially in view of "exemption limits"; and hence, other methods have to be resorted to.[3] One such is called the "occupational census" method, and is useful for determining the income of wage-earning classes, and the smaller incomes generally, below the exemption limits. It consists in nothing more than multiplying the number of earners in each occupation or class with the average earnings of that class. This method is exclusively used in countries where (as in France) income-tax figures are lacking or incomplete. The sum total of rents, interest, royalties, profits, salaries and wages, which these two methods help to obtain, is considered by Dr. Stamp to "present a fairly comprehensive idea, free from important ambiguities, for ordinary comparative purposes."[1]

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[1] *Vide* Stamp, **Wealth and Taxable Capacity** pp. 9 and 58.

[2] "Wealth census" which is distinct from the "income census" and the "census of production."

[3] A common rule-of-thumb method of finding the total income, usually attributed to Baxter, is to double the income tax assessment. This applied exclusively to the United Kingdom; but now no longer even in that country.

A third method which is the one we shall follow in this work is that of a census of production. This consists in valuing the yield from the soil, (food-crops and commercial crops,) the amount of coal, iron, and other materials extracted from mines, the amount of animal produce and fish obtained, of textiles and all other manufactured goods of any description made by every kind of craft and industry within the country, etc; deducting the value of raw material used up in the agricultural and industrial processes. This is very much the idea of the British Census of Production of 1907, 1912 and 1921; as also of those of the United States and Canada.[2] It may be noted, by the way, that such a census is different from the direct **Income Census** as adopted by Australia for 1914-15.

A like method is that of a census of consumption. In 1903, Sir Robert Giffen made an estimate of the wholesale cost of various articles consumed and of services rendered in the United Kingdom in the preceding year. This is published as Appendix A to his Essay on "The Wealth of the Empire and how it should be used."[3]

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4. **Illustrative data.**—We should here like to illustrate the difference between income-wealth and capital-wealth, by adducing some relevant figures for the United Kingdom and other countries.

In 1903, Sir Robert Giffen made a very rough estimate of the wealth of the British Empire[4] as follows:—

	Aggregate Income	Capital or Wealth
	(In million £)	
United Kingdom	1,750	15,000
Canada	270	1,350
Australasia	210	1,100
India [5]	600	3,000
South Africa	100	600
Remainder of the Empire	200	1,200
Total	3,130	22,250

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[1] Stamp: **British Incomes and Property** p. 416.

[2] *Vide* an article by Rai Bahadur D. N. Ghosh, Officiating Director of Statistics, in the **Journal of Indian Industries and Labour** (Vol. II, Part 3) for August 1922.

[3] **Economic Inquiries and Studies,** Vol. II, pp. 362 *et. seq.*

[4] Giffen *Ibid* pp. 362-82.

[5] In connection with India, Sir Robert Giffen writes: "India I would put down at £600 millions [Rs. 30 per head] which is certainly not a large amount for 300 millions of people, but where the adult ordinary labourer works for about Rs. 7, a month, if so much, or little over £5 per annum, that is £1 per head; assuming a family of five persons it would hardly be safe to reckon that the aggregate income of the people is more than equal to twice the amount per head earned among the labouring classes who constitute the mass of the people."

The total private wealth (as distinguished from public wealth) of France has been estimated in 1908 to be £9,000 millions by Messieurs Lavergne and Paul Henri, (**La Richesse de la France**) [1], while the annual income has been estimated (about 1907) to be between £900 and £1,000 million.

Giffen[2] put the income of the U. S. approximately at £3,000 million and the total wealth or capital at £18,000 millions. That was in 1903. But very recently the (U. S.) National Bureau of Economic Research have made estimates of the income of the United States for the years 1909 to 1919.[3] Professor King has made estimates by the data of Production, while Dr. Knauth has proceeded on the basis of Incomes Received. There is a very close agreement between the results; which for one thing is due to a considerable part of the total being arrived at from identical sources or data, and to the unavoidable overlapping of sources; Dr. Knauth using the data of production for his farmers' incomes, and Professor King using income figures for the big section of "Unclassified Industries." The results for 1913 and 1918 are as follows:—

Total Income (In Billion Dollars)

	1913	1918	1919
By production	35·6	60·4	..
By Income	33·3	61·7	66·0
Final (i.e. average of the two)	34·4	61·0	..
Purchasing power at 1913 level	34·4	38·8	..
Per Capita Income (In Dollars)			
Actual	354	586	..
At 1913 price-level	354	372	..

Mr. Ingalls gives[4] us an estimate of 272 billion dollars as the capital-wealth of the United States, and (roughly) 65.5 billion dollars as the national income, for the year 1920.

At the end of the book[5] Mr. Ingalls quotes estimates of the national wealth of the five participating powers at the Washington Conference for the Limitation of Armaments, December 1921. The figures, (which he writes to have obtained from the **Wall Street Journal**) are as follows:—

	Population (Millions).	National Wealth (Billions.)			Per Capita wealth.		
The United States	106·4	$ 350	=	£72·9	$ 3280	=	£685
The British Empire (**Sic**) (a)	45·5	180		37·5	3959		824
France	41·4	100		20·8	2411		502
Italy	36·7	30		6·3	817		170
Japan	55·9	25		5·2	447		93

(Note : A billion is a thousand millions or 100 crores).

(Note : Dollars converted into £ at par value).

(a) (So in the book. But it ought to read "The United Kingdom" only. We have **absolutely no means of ascertaining the veracity of these figures, nor had Mr. Ingalls himself; they may be allowed to pass with a comment that the figure for the U. K. seems to be very much exaggerated while those of the U. S. and France are also highly questionable.**)

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1 **Quoted from Mulhall's Dict. of Statistics.**

2 *Op. Cit.* **p. 367.**

3 **Income in the United States : Its Amount and Distribution. 1909-19.**

4 **Wealth and Income of the American People,** p. 81.

5 P. 310.

So far as the pre-war position of the Chief Powers is concerned, however, Dr. Stamp's estimates[1] are the most authoritative[2]:—

COUNTRIES	Income per head	Capital (including land) per head	Income from property per head	Relative share of property in total
United Kingdom	£ 50	£ 318	£ 16	32 °/o
United States	72	424	21	29
Germany	30	244	12	40
France	38	303	15	29
Italy	23	128	6	26
Australia	54	318	16	30
Canada[3]	40	390	15	37·5
Japan	6	44	2	33

As for Germany, there is no doubt, a considerable reduction has taken place both in her national wealth and in her national income. In 1913 Helfferich had calculated the total wealth of the German Empire at 310 milliards of gold marks, and her income at 40 milliard gold marks. Very recently Dr. Monitz Elsas[4] has calculated that, allowing for loss of territory and population, even a figure of 208 milliard gold marks is much too high an estimate of the wealth of the Reich; while her national income can certainly not be higher than 16¾ milliard gold marks. This means that her wealth has sunk from £244 to £173 per head; and her income from £30 to 14 per head.

No literature on this subject can pass over Mulhall's book, **Industries and wealth of Nations** i.e., the nations of Christendom, the principal countries of Europe and America. This is a most instructive book. It gives, as no other work does, the figures both of production and of value, of wealth and of earnings, and the details about their constituents. He also makes clear the distinction between aggregate and average and between gross and net wealth and earnings. It is unfortunate that the book is very old, and gives the position as it was in 1895. The same old figures are given in Mr. Mulhall's **Dictionary of Statistics,** while Mr. Webb's **Complement to Mulhall's Dictionary** does not make any clear advance. We, however, give the following table, for whatever it may be worth, combining Mulhall's comparative tables 1, 33, 34, 35, 36 and 37:—

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[1] Article on the "Wealth and Income of the Chief Powers", by Dr. Stamp, in the **Statistical Journal,** July 1919.

[2] Mr. Ingalls also (*op. cit.* p. 81) gives some pre-war estimates of national wealth.

	Billion.		Billion.
British Empire	$ 130	=	£ 27·1
German Empire	65		13·5
France	50		10·4
Russia	40		8·3
Austria Hungary	25		5·2
Italy	20		4·1
Belgium	9		1·9

[3] **The Statist** (of December 29, 1923) gives a quite recent estimate of the national wealth of Canada at $22,482 million, (£4,684 million, i.e. £538 per head), in 1920.

[4] *Vide* Article on "The Economic Position of Germany" by Dr. Elsas in **The Economist (Monthly Supplement),** (December 22, 1923).

COUNTRIES.	POPULATION in millions	YEARLY EARNINGS Total. Million £.	Per Inhabitant £.	Net,[1] per Inhabitant £.	WEALTH Total. Million £.	Per Inhabitant £.	Net,[2] per Inhabitant £.
United Kingdom...	39·5	1423	36·0	32·9	11,806	302	260
France ..	38·4	1199	31·2	27·5	9,690	252	216
Germany ..	52	1284	24·7	22·2	8,052	156	144
Russia ..	105	1004	9·5	8·5	6,425	61	54
Austria ..	43	707	16·7	14·7	4,512	104	91
Italy ..	31	436	14·0	11·8	3,160	101	83
Spain ..	17	273	15·5	13·8	2,380	135	119
Portugal ..	4.7	64	13·6	11·8	411	87	56
Sweden and Norway ..	6·9	142	20·6	19·1	790	114	109
Denmark ..	2·2	60	27·3	25·1	506	230	225
Holland ..	4·8	124	25·8	22·5	880	183	160
Belgium ..	6·4	181	28·3	26·2	988	154	140
Switzerland ..	3·0	70	23·3	21·5	492	164	160
Greece ..	2·2	28	12·5	10·5	222	101	86
United States ..	70·7	3116	44·0	41·5	16,350	234	228
Canada :	5·1	183	36·0	34·4	1,003	196	182
Australia ..	4·2	215	51·2	48·7	1,076	256	199
General Average...	..	..	23·6	21·4	..	153	141

As for the United Kingdom the most recent estimates are those for 1914, made by Sir L. G. Chiozza-Money, [3] (16,000 million); Mr. Edgar Crammond[4] (16,400 million) and Sir Josiah Stamp[5] (14,300 million £). Dr. Stamp has worked out his estimate in greater details in his **British Incomes and Property** (pp. 376 et seq.), which is a most valuable book on the subject of the wealth of the United Kingdom. In his latest work [6], Dr. Stamp sets his own figures side by side with those of Mr. Crammond and criticizes the latter as rather high. Owing to technical difficulties and to other difficulties in principle, Dr. Stamp does not give any estimate for post-war years; but expresses an opinion that for c. 1920 the national wealth cannot exceed £19 to 20,000 million, and is probably much less.

The national income of the U. K. has been estimated by the same authority [7] at £3,900 million for 1920, as against £2,250 million in 1914. Sir L. G. Chiozza-Money gave an estimate of £3,600 million for 1920 before the Royal Commission on Income-tax. A writer in the **Westminster Bank Review** (October 1923) arrives at about the same result (± 3,500 million) for 1922; his method, however, is highly objectionable, but its merits or demerits need not detain us here. A more optimistic reviewer of that article [1] considers that figure too low, and says he would be surprised to learn that the gross national income in 1923 is less than £4,300 million.

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[1] **Net Earnings,** that is, excluding taxation per head.

[2] **Net Wealth,** i.e. excluding debt per head.

[3] In his **Riches and Poverty (1910)**, however, he gives (pp. 62-5) a figure of £13,762 million for 1908.

[4] **Statistical Journal,** 1914.

[5] *Ibid.*

[6] **Wealth and Taxable Capacity,** pp. 1 to 28.

[7] *Ibid* p. 75.

Since our work relates to the **income-wealth of India,** we would have liked to give a **detailed** illustration of an estimate of the national income of any country, as that would have made it clear what categories usually enter into such a computation; but we have not come across any table sufficiently detailed, (and recent,) to be useful. There are, of course, a good many detailed estimates of capital wealth; but it will serve no good purpose to give any of them **in extenso.** We, therefore, leave the illustrative data here.

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[1] *Vide* The Economist, November 3, 1923.

CHAPTER III

The Concept of National Income

1. **Want of concensus as to the meaning of "income."**—In this chapter it is proposed to enter into greater detail about the concept of national income; and this will also involve us incidentally into a discussion of **income.**

What Professor Fisher says about income [1] applies also to national income. He complains that the state of economic opinion on the subject is "deplorably confused and conflicting." Either because the concept is deemed too obvious, or because the task of analyzing leads them into greater intricacies and confusion than they would like to unravel, the writers on the subject are apt to give vague definitions and "seek refuge in an obscure and ambiguous phraseology."

The truth about the matter is that the analysis of this concept is a matter of some difficulty. We do not agree with Professor Fisher in his belief that there exists a **definite** income-concept. We rather hold with the German economist [2] who wrote that there was no useful concept of income available. What Senior wrote [3] several decades ago about capital, is also true of income, viz., that "it has been so variously defined that it may be doubtful whether it has any generally received meaning." The general and prevalent notion of national income is that it consists of products and services that are actually exchanged for money between individuals. But difficulties arise when a **precise** definition of **national income** is to be arrived at. In the following sections, therefore, we propose to confine ourselves to those points only in the concept of national income which are the subjects of technical controversy.

2. **Things produced or consumed?**—In the first place, does it consist of things produced or things consumed? Dr. A. L. Bowley, after remarking that "it is doubtful whether a perfectly definite meaning can be attached to total national income" [4], proceeds to say that in his opinion it is more correctly "a total estimated value of services rendered to and commodities **consumed** by the members of the nation, together with the addition of savings"; (an element over the inclusion of which there is such fierce controversy). And Dr. Marshall and Professor Fisher have waged a long war as to whether it

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[1] **The Nature of Capital and Income.**

[2] **Kleinwachter.**

[3] **Article on Pol. Econ. in Encyclopaedia Metropolitana.**

[4] **Elementary Manual of Statistics, p. 170.**

was production or consumption that mattered. Dr. Marshall maintained [1] that the national dividend included an inventory of new things **produced**; while Fisher [2] would identify national dividend with those services alone that entered directly into **consumption**. Their arguments are discussed at length by Professor Pigou [3] and we need not enter into their relative merits. The one or the other will be the correct attitude according to the purpose in hand, (viz., whether it is the entire consumption or the immediate **consumption**). The distinction is rather in the way of looking at things, than in principle. For, as Marshall himself says, [4] "in the broad sense it is true that all production is for consumption, and that the national income is convertible with the aggregate of consumption."

We shall, however, accept Marshall's idea as against Fisher's; because we believe the real annual income to be the commodities **produced within** the year and **available** for consumption at **any** future time, immediate or distant, rather than the amount actually consumed. At any rate the former accords better with the popular idea of income as something available for use or consumption rather than the lot actually or already consumed.

3. **Is income ever subjective?**—Next, is income ever subjective? We have, in defining wealth, confined it to **external** commodities. But it is denied that income stands to wealth in the relation of species to genus. There is an enormous amount of confusion over the question of defining **national income**; which is due to this: Statisticians look to economists to define the term in such a manner that they (the statisticians) may be able to measure its **numerical content**. But to interpret this term in such a manner is a matter of great difficulty. Hence arises a host of definitions whose object is either to state the statisticians' point of view, or the economists,' or to reconcile the two.

In effecting this reconciliation, the subjective aspect of income is the first to be given a go by. Here we shall consider the definition of Professor Pigou. In considering the influence of the national dividend on economic welfare he says: [5] " Economic causes act upon the welfare of a community not directly, but through the earning and spending of that objective counterpart of economic welfare which economists call the national dividend or national income." But what is the national dividend? It is "that part of the objective income of the community that can be measured in money." Notice the word objective and the phrase "that can be measured in money." According to Professor Pigou, then, we have got to exclude that subjective portion[1] in the shape of pleasure, æsthetic enjoyment, enlightenment, sense of security, freedom, acquisition of skill or ability, existence of orderliness, and all the varied social influences. Of the objective income again that portion only is included which is actually exchanged for money. Thus will be excluded the following four groups of things, distinguished by Dr. Dalton,[2] which are obtained otherwise than by exchange; "(a) goods which men produce for themselves, services which they render to themselves, and the benefits which they derive from the direct use of their own property; (b) goods and services which they receive gratuitously from other persons or private institutions, and the benefits derived from the direct use of the property of such persons or institutions; (c) goods and services which they receive gratuitously from public authorities, and the benefits which they derive from the direct use of public property; (d) such free and unappropriated goods as they make use of."

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[1] **Principles** II, IV, 8.

[2] **Nature of Capital and Income.**

[3] **Economics of Welfare**, pp. 33-6. Professor Pigou recognising the utility of Fisher's conception, gives it the name "consumable income," or "the national income of consumable goods", to distinguish this entity from Marshall's "national dividend."

[4] VI, I, 10.

[5] **Economics of Welfare** p. 30 *et. seq.*

The defects of such a definition as Pigou's are evident. But we should prefer to reserve comments to a later section. At present, as Professor Pigou accepts **in toto** the definition of Marshall, let us go to Dr. Marshall himself.

4. **Analysis of Dr. Marshall's concept.**—Dr. Marshall's definition of "income" simply, is very broad. Though in ordinary parlance a person's income is identified with his money income, there is yet a broad use of the term occasionally needed, which includes "the whole income of benefits of every sort which a person derives from the ownership of property however applied."[3] As with a person, so with society. From the social point of view, (which Dr. Marshall deliberately adopts in preference to the individual), income is regarded as "including **all the benefits** which mankind derive at any time from their efforts, in the present and in the past, to turn nature's resources to their best account." It may be asked whether the pleasure derived from the beauties of the rainbow, the sweet taste of the fresh morning air, and like things, are also to be included in the content. Marshall replies that "they are left out, not because they are unimportant, nor because the estimate

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[1] Called by Professor Fisher "the Psychic income" (*op cit.* ch. X pp. 165). Professor Fisher considers income rather psychologically, as do Hadley, Flux and others. It is not a form of wealth, but the "usance" of it. It is a flow of Services rendered by capital. The loaf is not the income, but its use (nourishment) is. The concept is, indeed, too subtle to be grasped, and will not be of any use for our purposes. Fisher complains about "the miscellaneous assortment of concepts" (of income); but his own one will take us farther away than ever.

[2] **The Inequality of Incomes** p. 167

[3] II, IV, 4, To give a much-quoted example: "It includes the benefits that he gets from the use of his own piano, equally with those which a piano-dealer would get by letting out a piano on hire."

would in any way be vitiated by including them, but solely because reckoning them in would serve no good purpose, while it would add greatly to the length of our sentences and the prolixity of our discussions." The justification for such an omission is only that economics, like law, takes no account of trifles; it follows the maxim **de minimis non curat lex.** Details of secondary importance which serve only to overburden our discussion, and to offend against popular conventions, are omitted; but there are some details which are of first-rate importance and must therefore be included, popular conventions notwithstanding. Thus a dwelling house inhabited by its owner is regarded by the British Income Tax Commissioners as a source of taxable income.

In another place [1] Dr. Marshall writes: "The labour and capital of a country, acting on its natural resources, produce annually a certain net aggregate of commodities, material and immaterial, including services of all kinds. This is the true net annual income or revenue of the country, or the national dividend." We may here say that this is regarded as the standard definition of the term.

It will be observed that the last definition, being less sweeping, is an improvement on the previous one. But as Dr. Bowley observes, [2] in both these definitions there is a considerable "watering down" to suit the statistician. Thus, for example, are omitted: use of personal possessions other than houses, use of public property such as toll-free bridges, services rendered gratuitously by members of the household or by friends, and those rendered by an individual to himself. [3] In practical matters, contends Marshall,[4] theoretical completeness may be bought at too great a cost.

5. **Criticism of these definitions.**—These definitions (of Dr. Marshall and Professor Pigou) suffer from a great many defects, of which both the writers are aware. The first and foremost one is the want of symmetry. It is admitted in all these definitions that, so far as national income is to be **measured,** account can only be taken of the things actually exchanged. But the bought and the unbought kinds do not differ in essence from one another; things which one buys with money are not **essentially** different from those that one gets gratuitously. And, therefore, the proposed restriction has something of arbitrariness about it.

But this restriction will have to be accepted; for, if it is not accepted we shall find ourselves confronted with the dilemma of either considering national dividend as commensurate with the whole annual flow of goods and services of every kind whatsoever—a very wide definition and impracticable for the statisticians' purpose—or of abandoning altogether all efforts to arrive at any workable definition. But as both of these two courses would ill befit a scientific treatment of any subject, it will be necessary to make **money** the measuring rod. No known statistical measure can really give us all that a wide definition would require. Only things which are exchanged not merely those that are exchangeable, count. Moreover,as even Dr. Dalton (who otherwise is an advocate of the wider definition) admits,[2] "it would be pedantic to argue as though the elements excluded were, under modern conditions, of the same importance as those more commonly regarded as income and more easily valued." This restriction to things and services which are actually exchanged (for money, that is) within the community can, therefore, be justified also on the grounds of necessity and convenience. As Professor Pigou observes, [3]the concept of national dividend, (like that of economic welfare to which it is co-ordinate), is necessarily elastic. It is therefore a matter of convenience, and not of principle or logic as Professor Fisher makes it, what precise significance may be given to it.

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[1] VI, I, 10.
[2] Economic Journal, March 1922. p. 2.
[3] VI, I, 10.
[4] II, IV, 4.

But the criticism of statisticians is not that it is restricted, but that it is not clear or restricted enough for their purposes. Their aim is an estimate of the nation's income in terms of £. s. d. How is that to be done? Dr. Marshall writes,[4] "Social income may be estimated by adding together the incomes of the individuals in the society in question. But to reckon it directly is for most purposes simplest and best. Everything that is produced in the course of a year, every service rendered, every fresh utility brought about, is a part of the national income. Thus it includes the benefit derived from the advice of a physician, the pleasure got from hearing a professional singer, and the enjoyment of all other services which one person may be hired to perform for another."

This clearly gives to the statistician no solution whatsoever. The question at once arises, how and by what standard are the "benefits" and the "pleasures" to be measured. "Ah, but you can measure the **services** which result in those benefits or pleasures", someone may reply. But as this "measurement of **services**" raises a very fundamental issue in regard to which we depart from the conventional treatment of the subject, we defer it to the next chapter.

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1. cf. Stamp **British Incomes and Property**, p. 415.
2. *Op. cit.* p. 168.
3. *Op. cit.* p. 30.
4. **Economics of Industry**, p. 25. (also **Principles**, II, IV, 6.)
5. The method of **aggregating all the (individual) incomes** raises many small but knotty problems; for which *vide* Dr. Stamp's **British Incomes and Property** p. 412 *et. seq.* and Dr. Bowley's article on "The definition of **National** Income" in the **Economic Journal** March 1922, pp. 1 to 11. Some of them are touched upon in Chapter IV *infra*. In comparison with this method, that of **estimates by production** is quite simple, though it requires more work. The fallacy of double counting easily escapes notice in the former method; but can be as easily detected and avoided in the latter.

CHAPTER IV

Problem of the Inclusion of "Services"[1] in a Computation of National Income

1. **The conventional attitude with regard to ''services''.**—We have seen in the last chapter that the national dividend is defined as consisting of commodities and services. The question, whether we should include the money-value of ''services''[1] which do not directly result in material commodities, in a reckoning of the national annual (or income) wealth, is a vexed one; and in order to make our position clear we shall have to discuss it at great length. For it is here that we deviate from the conventional views on the subject. According to these views, the money-value of ''services'' **is** included in a reckoning of the national income, and the basis of valuation is the actual money-income received by the several individuals and groups that render the ''services,'' on this simple assumption, that the price (or money-value) of their services is what people actually do pay them in the ordinary course of affairs by way of a remuneration; and which payment, looked at from the point of view of the recipients, constitutes their **income**. We have quoted Dr. Marshall above; his definition of the **net income** includes ''services of all kinds.''[2] Pigou, following Marshall closely, is of the same opinion.[3] He takes the definition of the British Income Tax Commissioners, which obviously includes such income as is derived in the shape of remuneration for services. And this is the usual practice of most statisticians, like Dr. Stamp, Mulhall, Bowley, and others.

But there are certain recognized limitations to the inclusion of ''services.'' Services which a man renders to himself or receives gratuitously by or from his friends or the members of his family are excluded. This is done on the ground that we should not include as part of the national income such services as we do not ordinarily include as part of an individual's income. So are also excluded the immense services rendered by wives and mothers in household duties.[1]

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[1] For the benefit of those who are conversant with Professor Fisher's phraseology we may state here at once that our ''services'' and his ''services'' mean quite different things. By this term we refer to the work of doctors, lawyers, and of such professional and other classes only, **which does not directly result in, or produce, material and tangible commodities.** While Professor Fisher means by "services" the **abstract use** of wealth, e.g. the services of a piano (music), of a house, (shelter, or money rentals), of a loaf of bread, (nourishment). In this Chapter the term ''services'' (in inverted commas) must always be supposed to be qualified by the phrase ''which does not directly result in material commodities''. This special sense of the word, will therefore be narrower than just the ordinary meaning of services, and it is hoped that the context also in each case will make it clear whether the ordinary or the special sense is meant.

[2] VI I, 10.

[3] Economics of Welfare p. 30 *et. seq.*

2. **The Paradoxes it gives rise to.**—But the capriciousness or arbitrariness of such a plan is obvious; for some of the excluded services are intimately connected and interwoven with some of the included ones; and there is no essential difference between them. Pigou expresses his regret for the want of symmetry that is caused by such a compromise; but finds himself constrained by "conditions" to have nothing better than this.[2] Is it really so? Are the resources of the economist and the logician really exhausted?

Witness the violent paradoxes that would arise from this compromise. If a man puts on his own clothes his services count for nothing; but if he receives the assistance of a valet that service would count for something in the national dividend. This may be a trivial point; and we may feel satisfied with Dr. Marshall's contention that just as **De minimis non curat lex,** so should Economics. But the fact remains that when we do a thing ourselves rather than have it done by others there will be so much shrinkage of national income—that is, according to the conventional plan we are criticising.

Consider now the next case. The services rendered by women enter into the national dividend if rendered in exchange for wages, but not when rendered gratuitously for their household duties. To take Dr. Stamp's example:[3] If a man earning £200 pays £1 a week to a housekeeper, they figure together in the national income at £252; but if he marries her and continues his payment of £1, the national income would shrink by £52. These limitations are understood and expressed but nothing further is done. The evaluation of wives' services, where not subject to a monetary test, being so difficult a matter, it is conveniently ignored. But even Dr. Stamp in his later work [4] admits that a great strain was thrown upon this convention during the War.

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[1] "The greatest unpaid service of all", as Professor Smart says. (**The Distribution of Incomes**, p. 67.) This writer has a whole chapter (ch. XI) on "Income which escapes both notice and assessment", the seven categories of which are: (1) Unpaid services, particularly those of women in the household; (2) growing leisure, especially in these days when work is hard and uncongenial; (3) congenial occupation as a wealth in itself apart from its product; (4) satisfactions from our social relations (e.g. intercourse, association, culture, amusement, co-operation, happiness etc.); (5) new inventions and improved qualities of existing goods which greatly add to the income of benefit; (6) public and private property yielding no revenue, and the benefits which are continually obtained from the many ways by which our growing knowledge and organization make the most of our environment, (e.g. improvement of cities); and (7) the wealth from national conditions like freedom, equality of opportunities, peace, security and good government.

[2] *Op. Cit.* pp. 31 & 33.

[3] **British Incomes and Property**, p. 415.

[4] **Wealth and Taxable Capacity**, p. 51.

Consider the following: "if a million women were employed in industry and performed services worth £100,000,000, while a million wives stopped at home, the national income would increase by a hundred million only; but if these ladies changed places, the million wives going out to work and earning £100,000,000, while the million women became domestic servants and housekeepers in the homes of the wives instead of being out-workers, and are also paid £100,000,000, we get an addition of £200,000,000 to the national income." And all this difference for a mere change in social practice!

Again the philanthropic work done by church workers and all honorary workers, the disinterested services of experimenters and scientists, and the political and social work of many among the leisured classes, which do not enter into the national dividend, or which enter at very much less than what they deserve, will help to swell the national dividend if these persons are properly paid for their services, though the actual work remains the same as before. The Act which provided for payment to Members of Parliament enhanced the national dividend by about £250,000.

We thus see that a mere change in social practice would increase or decrease the money-incomes, and consequently the national dividend; for in attempting to evaluate these services and make for their inclusion in the national dividend, there will be no recourse but to fall back upon the very uncertain and capricious standard afforded by the actual money income earned, and assessable for the purposes of income-tax.

Further, even services usually worth a given amount may, at the mere will of those who perform them, be given much higher and exaggerated "values," and the national dividend would rise above its figure upon any reasonable exchange basis. "A, the great surgeon performs an operation for B, the prima donna; B goes to sing at a social function for C, the leading barrister; C takes a brief for A in a law suit. Each one is in the habit of selling the particular service to the community at £100; but on this occasion each sends in a bill for £1,000, which is paid; and up goes the national income by £2,700." [1] Take the reverse case; A, the surgeon, performs an operation for B, the barrister, who then holds a brief for A in a law-suit; the services of each are usually worth £200 but on this occasion they agree to cancel each other's obligations; so down goes the national income by £400. This will in general be so with an extended use of barter. Such instances could be multiplied indefinitely.

The suggestion that actual money incomes will represent the money values of the "services" suffers greatly from the obvious fact of the existence of non-monetary forms of remuneration, e.g., most domestic servants get besides their wages, their food and lodging—forms of real income which, however, do not enter into their money incomes.

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[1] Stamp, British Incomes and Property p. 147.

3. **Danger of "double counting."**—Finally, in estimates of the worth of services based upon money incomes (as discovered by income-tax statistics,) there is the danger that the same real income will be counted over and over again. The example of the land-owner, his private secretary and his domestic servant is quoted in most books. [1] A land-owner earns £20,000 and gives £500 to a private secretary who engages a house-keeper at £50. Ought the national income to be considered at £20,550 or at £20,000 only? Marshall argues for the higher figure because we have to add, he says, the income of the landowner, **plus** the services of the Secretary, **plus** those of the housekeeper, the last two items of the social income being expressed in their money worth at £500 and £50. But Sir Leo Chiozza Money is more careful; and says [2], that if the services of the Secretary, and his housekeeper contribute to the **getting** the landlord's income then a deduction should be made, for the income of £20,000, **includes** remuneration for those services as well, so that the incomes are £19,500, £450 and £50. But that if the £500 are spent by the landlord in **spending** the income, and not in order to get it; and if £50 is one way of **spending** or **enjoying** his income by the Secretary, and it was quite possible for him to earn those five hundred without spending those fifty; then in each case no deduction should be made and the total should stand at £20,550. The distinction is indeed very subtle; but for practical purposes it will be useless. How are we to know whether the services of a private secretary are obtained in "getting" the landlord's income or merely in "spending" it? Perhaps both considerations enter inextricably. Again, how can you say whether the services of the housekeeper do or do not help the secretary in **earning** his income? You can argue on both sides equally strongly. You can say that the housekeeper does not aid in earning the £500, because the secretary could have earned that much even if he had not employed her. Per contra, you can say that she does aid him in earning because if she had not been there, he would have had to spend a part of his time in his household work, and so would have earned less.

4. **Why "services" are excluded by us.**—A feeling may creep over the weary reader that we are making a mountain out of a molehill. But these and other instances only serve to demonstrate how capricious would be the inclusion (in an otherwise precise statistical computation) of any figure of money incomes as representing the worth of "services" in the total national dividend.

The inclusion of such a figure would rather make the whole inconsistent, unreliable for practical purposes, and illogical in principle. Our quarrel with

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1. cf. Marshal, II, IV, 6.
2. **The Nation's Wealth**, p. 120

the accepted views is not that the "services" which do not result in material production have no value, not that they are in no sense a form of the income of the community; but merely that, having regard to their insusceptibility to being rightly measured by the suggested (and the only possible) measure of money-incomes, it would be merely clouding the main issues of statistical study to reckon them in. They ought rather to be left to be accounted for separately.

It will thus be better by far to adopt the test of measureability in money, and to measure national income by only the material and tangible commodities produced. Any other test, e.g. measurement in terms of life-force, or of vitamines, would be impracticable, and even if any one succeeded in applying any of these tests the result would be unintelligible to lay readers. Our idea will, therefore, be the most suitable. We, however, need to distinguish it from the conventional idea which includes, in the estimate of national income, both the commodities produced and the services not resulting in material production.

5. **Our concept of national income distinguished from the conventional.** Two ways seemed open to us to represent this distinction, but the first one has to be rejected.

The first one was to introduce the qualifying word "real" to represent our conception of the income-wealth. The "real income" would then be the sum of tangible commodities only; the (call it) "nominal income" would be the sum of commodities **and** services not resulting in material commodities. But the choice of these qualifying words was not happy. And moreover the term "real" has already been appropriated by a ("sentimental") section of writers to represent, not only commodities and services, but also intangible forms of income (like the pleasure derived from viewing natural sceneries, etc.)—just the contrary of what we mean—a practice which most economists agree in rejecting.

The second way which we suggest for acceptance is to oppose the term **national dividend** to the term **national income**; that is to say, to confine the term **national dividend,** (which suggests the idea of a cake made and ready to be apportioned among the beneficiaries), to denote the commodity income only, while the term **national income** may be used to denote the sum total of "earnings" or "comings in" from all directions, whether in the shape of material commodities, or in the shape of mere abstract services. It may be noted that in his **Industries and Wealth of Nations** Mulhall makes use of the convenient term "earnings" in this sense, viz., income from the sale of commodities and from the sale of services not already embodied in those commodities.

This would have the effect of differentiating the terms "national dividend" and "national income." It will be objected that the two terms have been so long held to be convertible that immense confusion is likely to follow if we make them mean different things, or if we thus delimit their connotations. But our reply is that though the terms have been held to be convertible, they need no longer be. We shall be only wasting a useful term if we make "national dividend" coincident with "national income." The idea of a lump sum of material commodities, produced, and available for distribution, is entirely different from the idea of a sum of the earnings of all members of a community. And there is no reason why different ideas should not be distinguished by the employment of different terms. There is also no reason why such an apt term like "national dividend" should not be availed of to mark this differentiation. Although Dr. Marshall holds the two terms to be convertible, he admits,[1] that "the latter term (meaning national dividend) is the **more significant** when we are looking at national income in the character of the sum of new sources of enjoyment that are available for distribution."

So that, instead of causing the apprehended confusion, we shall rather be putting an end to the existing confusion, which arises from the use of the same terms to indicate two different ideas. Economists frequently complain, (in the introduction or first chapters of their general treatises on the subject), that the phraseology of their science is inadequate or confusing (by the same terms connoting different ideas). But in the present matter they can easily improve their phraseology at a very little sacrifice. We submit, therefore, that the term **national dividend** should denote a nation's material and tangible production in a year; while the term **national income** should denote the sum total of the earnings of all the members of a community, (including also the **personæ fictitiæ.**)

The distinction in ideas gives rise also to a distinction in methods. The method for computing the national **income** will be different from that for computing the national **dividend.** In the former case we shall have to sum up the returns from all sources in the shape of rents, royalties, profits, interests, salaries and wages, adding for the remuneration of other services, and for the value of occupations of houses, while deducting for "double-counting" and external debts. In the latter case we shall have to go in for a kind of census of production. The former method proves most handy for giving us an idea of the total earnings in a country with an extensive and elaborate income-tax system, as in England. But in our country the pertinent data cannot be available at all; because the income-tax plays a very small part in our system. Hence, no estimate of the total **earnings**[1] in India can be made with any show of accuracy. In the later parts of this work, therefore, we shall only confine ourselves to an estimate of the total **production** of India.

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[1] VI, I, 10.

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6. **Two objections to our plan.**—Revenons a nos moutons: let us now consider possible objections to the main argument of this Chapter, viz., that in an estimate of national income the price of services which do not result in material production should not be included, in other words that the money-incomes of those members of the community whose services do not result in material and tangible commodities should not be added on to the value of the gross material production in order to arrive at an estimate of the annual **wealth** of a nation.

To the plan of excluding the price of "services" (which are not embodied in material production) from an estimate of the national income or dividend, two great objections may be urged:

Firstly, it may be asked, "Why should you not, for practical purposes, evaluate services, not embodied in material production, at the actual money payment for them, that is, at any rate, for such of these services as have been **in fact** exchanged for money in the community?"

Secondly, "Seeing that the services of the agricultural and other industrial classes will have been already represented in the total national dividend (by means of the value of the commodities they produce or make,) why should you avoid giving a like representation to the services of the professional and other non-industrial classes which are of equal importance to the community? Why this differentiation?"

The answer to the first objection (§7 to 11 **infra**) will be the inadequacy of money in measuring abstract services. The answer to the second (§12 to 18 **infra**) must inevitably lead us into the vexed question of productive and unproductive labour, and to a further analysis of the concept of **wealth.**

7. **First objection: Why not have a money expression of "services"?**—The first objection clearly stated will run as follows:—

The national income consists of commodities and "services" not already embodied in them. By valuing the "services" as so many crores it is not meant that there is so much more money in the community, but merely that the value of the "services" can be stated at such a figure. The mere fact that a few "services" are exaggerated by money-incomes while a few other

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[1] We don't use the term "National Income" in the limited sense we have suggested above, because until the suggested distinction is universally accepted it is no use causing confusion in this argument by differentiating the terms Income and dividend; in the discussion that follows the two are held to be convertible, as is the usual practice.

"services" find no place in them at all, is no reason for a wholesale rejection of the money-income measure, and for its total exclusion. Rather should these facts, having opposite tendencies, be held to neutralize each other; so that a figure of the totality of money-incomes should be considered a fair indication of the price of "services" rendered by the members of the community **inter se**, at any rate of such services as have been **in fact** exchanged for such price in the community, during the year. For practical purposes, in the absence of any other plan for measuring "services," that of taking the money-incomes from "services" to represent the **money-value** of "services" would be a good one, and is accepted by most computators of national income.

This argument involves a double fallacy: it seems to hold that two wrongs can make a right, and it supposes that de facto exchange-value or price can truly measure the real worth of "services." The utter inadequacy of money-income figures as indicative of the value of services, we have shown at length above. To show that inadequacy in one direction may be offset by an inadequacy in another, requires it to be shown that the tendencies are equal and opposite; which it is clearly impossible to prove here. For we have neither a measure of the exaggeration, nor any idea as to what the unvalued services could be reckoned at. And if the test of the **de facto** exchange-value is taken—as the objector wants us to—then, surely, there can be no complaint about the "exaggeration." For **ipso facto,** the de facto test takes **that** to be the price which is in fact paid. So that we have this state of things: viz., that we have certain "services" priced at so much because so much is in fact paid for them, while there are innumerable other "services" which have no price at all. Many of these remain unvalued because they are not valuable. The former we are asked to include in an estimate of the national income, the latter we are asked to ignore! The absolute lack of homogeneity which would result if the suggested plan were followed will now be clear. When national income was defined to consist of commodities and "services," the "services" was taken to be the **totality** of "services" paid and unpaid; and there was certainly no idea of confining the term to those "services" only that were in fact sold for money.[1]

And even as regards these latter, it was intended to include the **efforts** embodied in those services rather than the actual **price** paid for them.[2] The national income was to be the totality of commodities, plus the efforts of physicians, of lawyers, of civil servants, of domestic servants, of wives, and the efforts to all others **so far as these were not actually embodied in the** commodities produced.[1] It is easily seen that commodities are measureable in money. Having come so far, economists begin to look about for a possible money expression of the efforts.

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[1] Cf. Marshall, VI, I, 10.

[2] This, we submit, is the true and ulterior intent of the definitions of economists like Marshall and Pigou.

Now, a money expression of these efforts can only be made on the basis that equal efforts have equal money values; and all correlations of efforts of price must be on a reasonable and consistent basis of exchange, not on capricious and shifting ones. These desiderata are impossible to be fulfilled. Were there a society in which all men were equal and equally rich, and were there a schedule of rates of payments for different services, fixed by law, and not to be departed from, there might have been something to say. The services of the various people and the various grades of services would in such a society be paid equitably and on a consistent and reasonable basis, (assuming that the powers that be who fix the rates are a reasonable set). But our society is one in which there is free exchange. The prices paid for services depend entirely upon the means and the whims of those that buy, and on the number and needs of those that sell them. There is no equal reward for equal efforts. There is no one rate for the same kind of service. And this is particularly so in the more intellectual and the professional services. Caprice seems to reign supreme here. As for the lower and generally manual services; these chiefly enter into the values of the commodities they are instrumental in producing; and the fact of a consistent rate of payment among them cannot help us at all, because we are not concerned with such services as crystalize themselves in material production.

8. **The plan suggested further criticized as involving us into absurdities.** We find, therefore, that in our society, all the conditions which are necessary in order to make possible a true money expression of the efforts of those classes that escape valuation, are totally wanting. A correct money expression of the "services" (of the professional and other non-industrial classes) which have not directly materialised into visible commodities, is therefore an impracticability. The suggested plan therefore falls to the ground; firstly, because by the definition of national income all "services" must be included, and that it does not do; and secondly, because the money expression is on

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[1] To take an algebraical illustration: Suppose the community consists of the classes A, B, C and D, with their respective produce X, Y, Z and x. Suppose A, B and C denote those engaged respectively in the agricultural, mining and manufacturing industries, while D denotes those classes which do not produce any material commodities. Clearly, then the total dividend of the community would be only equal to X+Y+Z while x (abstract services) would be left out as a mere mental complex. And if it is sought to value x by the remuneration "p", which the class D receives, then as p can only come out of (X+Y+Z), these X, Y and Z will have to be written down at proportionately lower values; so that the real total income will still be the same as before. No doubt D also receives a share, but this is a matter of distribution with which we cannot be concerned here. So far as production is concerned, however, the share p, which D gets, involves a corresponding reduction of X, Y and Z.

no consistent or equitable basis. Hence our conclusion that the whole class of "services" had better be left to be accounted for separately than that we should make this patchwork of dissimilar elements, and court incongruity and lack of homogeneity.

That this arrangement will be decidedly better may be seen from a consideration, that, were society organized on some socialistic basis, so that every one was bound, by some sort of conscription of labour, to be engaged in that work which was allotted to him by the State, and for which we would be paid by the State itself in **commodities**, the money value of all services would disappear altogether. Suppose there is some sort of a Collectivist State, and all its members are its servants. The State assigns to each his task: to one man ploughing, another building, a third singing, a fourth teaching, a fifth healing, and so on right through. It may even assign a man to a different work each month. The whole dividend is the State's property. Out of this, it gives to each man the necessaries of life and a few comforts, for the most part equally.[1] In such a society, the national annual wealth would be the commodities produced—just as much as in our societies; plus, if you like, the services of every member. We say "every" member because everyone is equally the State's servant and there is nothing to choose between them. Now, what will be the money-value of these services? Clearly, any valuation of them would be impossible! On the "actual payment basis" every service would be as good or as valuable as every other, and the total "value" of all the services would be commensurate with the total value of the goods produced or consumed—it doesn't matter which; (for all production is in a broad sense and in the long run for consumption.) Therefore, the national income would on this basis be **twice** the production! **Reductio ad absurdum!**[2] It is clear then that in a society like the one above depicted, the value of all the services will have to be left out of the calculation of its national income.

Precisely the same thing happens in **our** society; the total payment for all services comes out of the total production in the last analysis. What should a physician do with the money he is paid but buy commodities? Paper, gold and silver are not potable themselves! Some part of his receipts he may give for other services, e.g., of the domestic servant, of the lawyer, of the actor; but this again in its turn is translated into commodities. When seen in its true light, the sum total of services is found to be paid for out of the sum total of commodities. And we should arrive at the same absurd result as above (viz., that the national **income is twice** the production), were we to reckon in also the price of the services on the payment basis. If not "absurd," the result is at any rate unmeaning. It blurs the true end of all efforts. It adds together the end (commodities), and the means to that end (services.)

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[1] This is to put it mildly. For in most collectivist schemes the distribution is to be on the principle "to each according to his needs"; and therefore quite irrespective of the worth of his labour!

[2] There is, by the way, a sense in which this paradox will be true, viz., that the national income or the total production, will be twice the consumption of the producers themselves. In any society, the workers only amount to 50 per cent of the population. The rest consist of children, the aged and the infirm who have ethically a first charge on the production, and must be maintained out of it. The total production must then be equal to their consumption, plus the consumption of the workers themselves; in other words, production will be twice the consumption of those who contribute to its making. It will have been noticed that this paradox is quite different from the absurdity we arrive at in the text above.

9. **What gives rise to the idea that "services" are measureable in money.** But the fallacy involved goes unperceived because we are so much accustomed to our social arrangements, and to the use of money-economy, that we are unable to tear aside the veil that the existence of money throws on so many problems; among them this one. What we actually see is the teacher giving tuition and pocketing so many rupees, or the doctor writing the prescription and pocketing 20 rupees; this much of the process only. It is the unequal distribution of our times, the presence of money-economy and the consequent exchange of some services for money, and the fact that this service is paid for at this rate and that service at another, that make us believe in the idea that services, **quae** services, are something that can be measured in money. We forget that services are only a means to an end, and that end is, in a phrase, **the advancement of our well-being**—for the most part through commodities directly and to a small extent also through mere abstract utilities. But these commodities alone are measureable in money. And as regards those services which directly materialize into commodities, it may be permissible, by a figure of speech, to speak of them as if they themselves were measureable in money. But there is not a shread of an excuse to speak of the non-industrial services (i.e., the "services" which do not result in material production,) as being measureable in money. They result only in such utilities as advice, knowledge, guidance, pleasure, comfort, relief from pains, assistance, protection, encouragement, order, stability, organization, etc., which being psychic, are non-measureable. These, therefore, though a species of income in the broad sense, cannot enter into a computation of the national dividend.

If the above argument is difficult to follow, take, for simplicity's sake, two clear-cut classes only: the producer class and the non-producer class. The latter class cannot exist for a day without some share of the fruits of the former class, and this they would get only by doing some services in return, such as, for instance, looking after health, education, protection, welfare etc. But these services, quae services, will form no part of the national dividend. It is the pleasure, comfort, knowledge, protection, assistance etc.. that make up the income, but which, being non-measureable in money, have also to be excluded. The services are only means to those ends.

Or take a lonely island with Robinson Crusoe and a Philosopher (in the wide sense). Crusoe raises the corn, cuts fire-wood, and spins the wool and makes the cloth, for himself and his friend. The Philosopher does no such work, but ministers to Crusoe when he is ill, instructs him, teaches him about God and the like, and protects him against wild animals etc. The annual income of this little community will be measured by all that Crusoe produces and makes, plus—not the services but—the outcome of the services of the philosopher, which is the abstract benefits received by Crusoe.

10. **Distinction between commodities and services as regards their measurability in money.**—It will be at once urged that on this reasoning the commodities are not themselves income, but it is the shelter, nourishment, comfort, pleasure, etc., which they afford, that constitute the real income; that commodities too—like services—are a means to the end. This is akin to what Professor Fisher holds on the subject of the income-concept. [1] But our reply is that there is a distinction between the income derived in commodities and that derived from the "services" of the professional and other non-industrial classes. The commodities have a material and independent existence; they are susceptible of being objectively visualized; they are in themselves a form of wealth, and do not wait to become wealth until they are consumed and transformed into sustenance, shelter, comfort, pleasure, etc.. They will be wealth even if they remain unconsumed. The same is not true of "services" that have not materialized into commodities; these have no existence in themselves as a form of income apart from the subjects to which they minister. Their existence is subjective only, that is, they begin to exist when the advice and assistance are received, when the pleasure is felt, the protection enjoyed, the comfort realized, by those for whom these were meant; and all these are subjective, i.e., mental or psychic, phenomena. Nourishment and sustenance are not exactly psychic, they are rather physiological phenomena. From another point of view, regarding only efforts in both cases, the services of the professionls; the domestic servants, etc., result directly in psychic income, while those of the agricultural and other industrial classes result directly and immediately in commodities, and it is only if you take the argument a step further that you will get in these cases a psychic income analogous in form to the preceding one—though not even then completely, because, as pointed out just now, nourishment, sustenance, etc., are physiological rather than psychic phenomena. The distinction,

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[1] cf. Nature of Capital and Income pp. 105-9.

therefore, is real, and not without a difference, as is suggested by the objection raised in the beginning of the paragraph.

11. **Additional arguments to show the inadequacy of money in measuring "services."**—It only remains to show by some additional arguments that money is a most inadequate measure of services.

"The components of the national income have not an unchangeable value inherent in them. The value as measured is only in relation to existing relationship." [1] Physicians' services, for instance, would figure very low were they never required by the richer classes. And in general, the components will have different valuations if rearranged in different relationships. [2] This argument applies also in the case of commodities, and so cannot be made much of; but in the latter case, it does not apply with so much force because in estimating the value of much the greater part of the commodities we take only the lower limit, the wholesale prices (as against the retail prices or prices obtaining in some chance transactions), which are far more stable, depending as they do in the long run mainly on the factor of the cost of production. Moreover, it may be replied that "existing relationships, being based on broad causes, are little liable to disturbances," [3] unless through secular changes, which, however, do not concern us.

But it is true that money tends to exaggerate the higher incomes. If the upper classes have great incomes, they have also to pay much more for their purchases than have the lower classes to pay for identical things. Hence their real income is much less than the apparent one; and so also is the real disparity between the rich and the poor (in distribution) less than the apparent one, as Professor Pigou points out. [4]

Similarly, services rendered to the well-to-do are more heavily valued than like services to the lower classes. Hence money gives us different valuations for indentical services. [5]

Conversely, a service rendered to a rich man and valued at £1 is not equal to another service rendered to a poor man and also valued at £1, though the figure is the same in both cases. The reason is well-known and made so familiar to us by the writings of Marshall. [6] Briefly put, it is because the marginal value of £1 to a rich man is much less than that to a poor man; and hence, the service rendered to the former is much less than the one rendered to the latter.

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[1] Stamp, **British Incomes and Property**, p. 417.

[2] Hence Money's remark (**The Nation's Wealth**, p. 120) that if the whole national dividend were better distributed, part of it would disappear. Also Pigou: "It would be impossible to pool the national income in this way without a large part of the flow of goods and services disappearing altogether."—**Economics of Welfare** p. 792.

[3] Taussig, **Principles** Vol. II. p. 157.

[4] *Vide* **Wealth and Welfare**, p. 27.

[5] Dr. Bowley mentions some other cases where the money values are not interchangable and equal to different persons or in different place'.—**Economic Journal**, March 1922, p. 3. cf. also Stamp, **British Incomes and Property**, p. 418.

[6] cf. III, III, 3.

Indeed, some services have "fancy values." Witness the three guineas you pay to the expert physician who recommends a rest-cure, or the three hundred rupees you pay to a counsel for a mere retainer. Computators like W. H. Mallock, Leone Levi, and, following him, Ireson, try to avoid this difficulty by deducting from the national income an amount equivalent to what they consider to be the exaggeration involved. The remedy is worse than the disease, for the deduction is purely a matter of individual choice, and may be anything between 10 per cent. and 60 per cent. It is made on no rational basis. Dr. Stamp [1] protests against Levi's proposed deduction of £100 million, as being gross exaggeration. If you deduct for "fancy values" you must also add for services undervalued! So that all considered, the plan of deduction must be rejected as useless.

Finally, it is a matter of common knowledge that better services may be rewarded with less money; e.g., the writer of a sound scientific book, as against that of some frivolous novel. The former generally thinks himself very lucky if he gets back his cost of printing, let alone his labour! Sometimes the most enduring service, as that of an inventor, goes unrewarded, while the work of the successful popularizer of that invention raises the national dividend.

The foregoing discussion will, we hope, suffice to prove the futility of the suggested plan for the inclusion of the price of "services" in an estimate of the national income. We now come to the second objection.

12. **Second objection: Why ignore the work or services of non-industrial classes?**—The second objection clearly stated will run as follows:—

The value of commodities includes also the value of the labour involved in making them; the services of the agricultural and other industrial classes therefore do find, through those very commodities, an expression in the estimate of a nation's wealth. But these services are of as much importance to society as those of the physician, the administrator, the teacher, etc., though they produce no visible, objective, concrete commodities. On your plan these latter will not be represented at all in an estimate of national wealth. But why should you thus differentiate between services which to Society are equally useful and essential?

The reply is, briefly, that it is precisely because we are **measuring** a nation's **wealth**, that we omit those services which do not produce **wealth**.

13. **What is meant by 'productive'?**—This reply, we have stated, would

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1. Cf. Stamp, **British Incomes and Property**, p. 418.

involve us into the vexed question of "productive" and "unproductive" labour. At the risk of being antidiluvian, we shall have to go back to the Adam Smithian doctrine that there is a large class of persons whose services do not add to the **wealth** of the nation. The professional classes are the worst example; but even the services of the commercial classes will have to be for the most part excluded.

But it may be objected at once, that if there is any point in economics on which modern writers are so decisively unanimous, it is this: that the distinction between "productive" and "unproductive" is an exploded myth, a thing of the past, now no longer believed in. Imagine the labours of the violin-maker to be "productive" while those of Kreisler, Premyslav, or of Miss Mary Hall to be "unproductive"! These words are terminological inexactitudes. Nobody produces anything. "All the labour of all the human beings in the world," wrote Mill, "could not produce one particle of matter. What we produce or desire to produce, is always, as M. Say rightly terms it, an utility. Labour is not creative of objects but of utilities." And utilities are what are created by the services of the professional classes as well as by those of the industrial.

Admitted! But are all utilities "wealth"? There are certainly some classes of utilities, such as those perishing in the very instant of their production, which cannot be spoken of as wealth, "except by an acknowledged metaphor." This we shall explain at length later on. For our purposes then, the terms productive and unproductive are not used in the usual sense; but in the sense of productive and unproductive of "wealth"—not of mere utilities.

14. Controversy between Adam Smith and his critics apropos "productive."—The great faults of Adam Smith's orthodox concept[1] were its want of clearness and its author's own inconsistency. In his **Introduction** Adam Smith had spoken of the wealth of a nation or an individual to consist in "the necessaries, conveniences and amusements of life,"[2] and there had been no intention of confining the term **wealth** to material commodities only. Thereafter he fell under Physiocratic influences and seems to have entirely forgotten about that phrase. In his Book II, however, he happens to discuss the term "productive," and comes very near to confining that epithet to those services which ended in "subsistence." But he feels that he has

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1. For a critical discussion *vide* Cannan's **Theories of Production and Distribution**, pp. 16 to 31. But Professor Cannan's criticism is made from the opposite standpoint. He condemns Adam Smith's very narrow and orthodox conception of the annual produce or wealth of a nation, and tries to show to what extent it was rejected by his followers. While we try to show that in spite of his want of clearness and his own confusion he at least blundered upon an important fact.

2 cf. Cantillon: "La richesse en elle-meme n'est autre chose que la nourriture, les commodites, et les agremens de la vie,"—Quoted by Cannan, *op. cit.* p. 19.

gone too far; to damn the services of artificers, manufacturers and merchants as **sterile** was, he considered, improper. He therefore looks round for a **fundamentum divisionis**, and finally alights upon a test of poductivity of labour, which he makes to depend upon whether or not that labour realized itself in "vendible commodities," which would endure after the labour is past. "Evidently" writes Cannan,[1] "what impressed him was not the valuelessness of the produce, but its want of duration." In conformity with his test Adam Smith defined the annual produce or real wealth of a nation to consist of material commodities exclusively.[2] Such a conclusion is no doubt the logical outcome of his concept of productivity; but as it involved a flagrant contradiction with what he had written in the Introduction, it was immediately condemned by his critics. The latter also weighed his concept of productivity in the balance, and found it wanting. They showed that vendible commodities were not really "produced" and that nothing can be created except utilities. Finally—and this proved to be the proverbial last straw—though there is reason to believe that the term "unproductive" Adam Smith did not hold to be synonymous with **wasteful** or **worthless**, yet his careless way of writing, and his use of such expressions as "the humiliating appellation of barren or unproductive class," gave his critics the belief that the term implied stigma or disparagement. So they protested against applying it to any labour that was useful or worth the cost. Here there was clearly a misunderstanding of the matter in dispute. Adam Smith meant by "unproductivity" merely a failure to result in material commodities.

If Adam Smith's earlier utterance may be forgiven him, and his later well-thought of opinion accepted, then it will be found that there is no common ground of dispute between him and his critics. He began by defining productivity and derived therefrom the concept of wealth;[2] while his critics started from the other end: defining **wealth**, and deriving the concept of productivity from it.[3] Both arguments are correct, depending, as they do on different major premisses. And we are none the wiser, by this long and useless controversy, on the fundamental question, whether all labour is productive of **wealth**. For, as Mill points out,[4] "the production of utility is not enough to satisfy the notion which mankind have usually formed of productive labour."

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[1] *Op. Cit.* p. 21,

[2] Productive labour results in vendible commodities.
All real wealth consists of the results of productive labour.
Therefore, all real wealth consists of vendible commodities.

[3] All things which conduce towards men's subsistence, comfort, and enjoyment are wealth.
All wealth results from productive labour.
Therefore, all those things are the result of productive labour.

[4] *Op. Cit.* p. 45.

There seems to us to be absolutely no reason why the concept of productivity should have been confused and intermingled with the concept of wealth. Both concepts are really apart and have no causal connection. Productivity (in the sense in which it was held by the critics of Adam Smith) may be the attribute of all labour alike, and yet the utilities created by all labour may not be wealth.

The real point was to arrive at a definition of wealth. This, however, was not done: instead, an a priori assertion was made that wealth was such and such a thing.

15. **Our definition of 'wealth.'—We,** however, begin by defining wealth by an independent examination of the concept itself. Wealth consists of utilities, no doubt; but not of all of them. It consists of such utilities only as are fixed and embodied in outward objects. **Materiality,** therefore, is our test. And though Adam Smith's definition coincides with ours, it must be pointed out that he blundered upon it through two insufficient concepts, of "productivity" and "durability;" the one was ambiguous, needlessly interposed, and a source of confusion to the author himself; the other was faulty.[1]

In our earlier discussion we have shown the due importance of intangible forms, but we have there stated, and we repeat here again, that for the purposes of a statistical computation those elements will have to be rigorously excluded from the concept of wealth, even though for purposes of general discourse it may be permissible to define **wealth** so as to include them also.

Wealth, then, consists of those utilities only that are fixed and embodied in material objects. And the labour of those classes only[2] should be considered in an estimate of **wealth** which results in the creation of wealth-utilities.

16. **Utilities which may be regarded as 'wealth.' Analysis of Mill's discussion.**—And what kinds of utilities may be regarded as wealth?

Utilities produced by labour are classified by J. S. Mill into three classes:—[3]

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[1] For Dame Melba's singing, for instance, would when impressed upon a phonograph plate, also become "durable"!

[2] We have no need of the term "productive" and we shall not use it. It is, as Marshall says, (II, III, 2) a "slippery term." In all the changes which the word has undergone, it has had special reference to stored-up wealth; and that is why, constrained by an almost unbroken tradition, as it were, Marshall understands the word to mean "productive of the means of production and of durable sources of enjoyment." But "all hard and fast distinctions in which this word may be used are very thin, and have a certain air of unreality. If any artificial line is required for any particular purpose, it must be drawn explicitly for the occasion." Our attempted answer to the second objection is one such occasion ; and we have already denoted that **productive** should mean productive of utilities which are wealth. But as this will follow from the definition of wealth, we have no real use of that dangerous, because ambiguous, word. Our real concern is not with productivity but with "calculability," i.e. whether a given labour is or is not susceptible of being calculated for the purposes of our estimate.

[3] **Principles**, pp. 45 *et seq.*

"(1) Utilities fixed and embodied in outward objects; i.e. by labour employed in investing external material things with properties which render them serviceable to human beings.

"(2) Utilities fixed and embodied in human beings; the labour being in this case employed in conferring on human beings qualities which render them serviceable to themselves and to others.

"(3) Utilities not fixed or embodied in any object but consisting in a mere service rendered, a pleasure given, an inconvenience or pain averted, during a longer or a shorter time, but without leaving a permanent acquisition in the improved qualities of any person or thing; the labour being employed in producing an utility directly, not (as in the two former cases) in fitting some other thing to afford an utility."

In the first class would come the labour of all industrial classes. In the second would fall the labour of all concerned in education, of clergymen, of physicians, of the teachers of bodily exercises and various trades, arts and services, together with the labour of the learners in acquiring them—in short "all labour bestowed by any persons throughout life in improving the knowledge, or cultivating the bodily or mental faculties of themselves or others." And in the third class would fall the labours of musicians, actors, showmen, of military people, of administrators and judges, other officers of justice, and all other agents of Government in their ordinary functions, "apart from any influence they may exert in the improvement of the national mind."

Mill rejects the utilities of the third kind from being included under wealth, because it is essential to the idea of wealth that it be susceptible of accumulation. "Utilities of the third class, consisting of pleasures which exist only while being enjoyed, and services which only exist while being performed, cannot be spoken of as wealth, except by an acknowledged metaphor." In order that things may be considered wealth they must be capable of being kept for some time before being used;[1] while these utilities perish in the very instant of their production. Cannan's objection that Mill is thinking only of capital wealth and that his remarks have no bearing on the annual produce,[1] is groundless; for what is true of the genus wealth is also true of the species, capital-wealth and income-wealth, and Mill here considers the general concept of "wealth."

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[1] Jevons, (**Principles of Economics**, pp. 14-8), has strongly criticized the whole of Mill's argument. He ridicules the latter's idea that things must be capable of being kept for "some time" after being produced, because no definition or means of defining sometime are given, and "this omission is sufficient to break the whole thing." Then he goes on to charge Mill with "inconsistencies not to call them absurdities—into which his definitions lead him" etc. But the cat really comes out of the bag when Jevons, criticising Mill's conclusion that he will when speaking of wealth mean by it material wealth only, writes: "It is absurd thus by an arbitrary definition to cut out of our science a full half of its appropriate objects, namely, services of a passing and perishable kind." Indeed, economists like Jevons, who defined their science as the "science of wealth," must have been filled with great consternation at the (imagined) prospect of its scope being reduced! No wonder that economics has ceased to be defined as the science of wealth.

The next consideration is whether utilities in the shape of improved bodily or mental faculties or improved industrial capacities of human beings—that is, utilities of the second kind, can be termed wealth. Mill is here rather shaky; personally, he would draw the dividing line on the basis of permanence or durability of the utilities; but in popular apprehension the materiality of the product is emphasized, and there is always a tacit reference to material products whenever these capacities and faculties are spoken of as "wealth." Mill finally decides "to do the least violence to popular usage, since any improvement in terminology, obtained by straining the received meaning of a popular phrase, is generally purchased beyond its value, by the obscurity arising from the conflict between new and old associations." On this ground, therefore, the second class of utilities will also have to be excluded from the conception of wealth.

"I shall therefore in this treatise," writes Mill, "when speaking of wealth, understand by it only what is called material wealth."[2]

In this, Mill completely expresses our point of view, (and that is why we have stated the case mostly in his words; for where else shall we find such a clear and lucid exposition?) The labour, then, of only such classes can be reckoned in a computation of wealth, which results in utilities which are "wealth", i.e., the utilities of the first kind only. In other words, only that labour needs to be represented in an estimate of wealth, which results in material and tangible commodities which alone can be spoken of as "wealth."[3]

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[1] *Op. Cit.* p. 30.

[2] See footnote on previous page.

[3] It may be repeated here that the concept of **productivity** has nothing necessarily to do with the concept of wealth. One writer is as much entitled as another to have his own views on productivity, and classify labour accordingly. Mill is therefore free to consider as **productive** "not only that labour which directly yields material products, but also any labour which has as its **ultimate** consequence an increase in **material products**." (pp 48-9) (e g., labour expended in acquiring or imparting skill, not in virtue of the skill itself, but of the manufactured products created by that skill; or labour of Government officials which brings about security which is so essential to the prosperity of industry). The passage does not upset our position in any way, as it may lead superficial readers to believe. For, were it so, Mill would be **ipso facto** upsetting his own position and making himself inconsistent, And Mill was also the author of a treatise on **Logic!** We may however, criticise this attitude of Mill's (on "productive") as rather a stretching of the point, for, in an earlier paragraph (p. 45) he had said that "productive labour is labour productive of wealth," and he has agreed not to call utilities of the 2nd and 3rd classes as wealth, while now he holds that some labour which produces utilities of these kind may also be termed "productive" if it tends to increase material wealth, however ultimately!

17. **Labour involved in the production of injurious things.**—Here we may be permitted to say a few words on the question of labour involved in the production of deleterious commodities, e.g. strong alcoholic beverages, bullets, and other paraphernalia of war, indecent pictures, etc. It is true that there is a sort of an unconscious feeling that these things cannot be regarded as wealth. But we think that Economics rightly disclaims all right to sit in moral judgment upon things, and leaves that to the kindred science of Ethics. For the former, however, whatever commodity satisfies a want or desire and has a value in exchange has also a place in an objective computation of material wealth. That the want is unwholesome or the desire depraved, Economics may regret, but is not otherwise concerned.[1] Fortunately, however, these things count for exceedingly little in the total wealth of a nation, except perhaps the armaments. But, then, the utility of these last arises from the utility of armies, navies, and air forces; and must stand or fall with them. If society thinks it necessary to maintain these services, then their wherewithals must, at the worst, be put up with as necessary evils—evils, no doubt, but nevertheless **necessary.** Hence Dr. Stamp, Dr. Bowley, Sir L. G. Chiozza-Money, and other statisticians reckon in the value of the navy, army works, arsenals, etc. (under the head of public property) in their estimate of the National capital wealth. The problem will, however, lose much of its importance in an estimate of the national **income.**

18. **Examination of utilities created by the different kinds of "services."** To return from this digression. We shall now consider whether the labour of the several (non-industrial) classes, on whose behalf the second objection has been raised, results in utilities which are "wealth;" and whether, therefore, they have the right to be given the same treatment in an objective computation of national wealth as is accorded to the industrial classes.

The burglar and the mendicant! What services do they render, what utilities do they produce? The one transfers utilities from other people's houses to his own, (supposing he has one); the other will "for ever pray" for those who help him! It does not need any words to show the utility of their labour; **their** labour is productive only of "disutilities" as Ruskin would say.

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[1] A burglar's "jimmy" is a means of injury to society, says Professor Fisher, but it is nevertheless an article of wealth. (**Elementary Principles of Economics**, p. 499. Professor Fisher has also a section on "forms of wealth used for social rivalry," for ostentation, for the mere gratification of vanity, (pp. 500-11.) "The efforts to satisfy vanity are like the efforts of nations to secure armaments. So far as society is concerned, the cost of keeping up the (Vanity) race is a total waste" (*Vide* pp. 503-6 for amusing illustrations).

But how much better is the service of the stock-exchange speculator? It is true his gambling instinct does sometimes steady prices, but that is not his object or desire; that effect results merely from the action and reaction of so many speculators contending against one another. His labour too creates no utilities; he only transfers utilities from other people's pockets into his own by means which no code of ethics however lax can justify.

And where speculation is an intelligent anticipation of demand, and not mere gambling for the sake of gambling [1], it still holds good that nothing new is created, while the increased utility of the commodity in being in the very quantity in which it is wanted just at the particular time will be reflected in the higher value of the **total** stock of that commodity.

The military people no doubt render some service in the shape of peace and security, immunity from conquest or insult; but these utilities which they create [2] are not wealth. Moreover, the value of their services should be considered to be really negative, since they consume so much of national revenues in return for the services they render, that the military class is regarded as the greatest incubus to society. Were it not for the greed and rapacity to which nations, like individuals, are prone, their services would not have been required at all. Their services arise because of the evil side in human nature, and would cease to exist were human nature improved. Surely, labour, the outcome of which is a mitigation of **evils**, cannot be said to contribute anything to the wealth of the nation.

Like the military people, the civil servants are also paid out of the revenues which the state derives from the members of the community; the utilities they create, order, security, the maintenance of law, good administration, etc. though these no doubt help material production, already find an expression in the enhanced value of the total stock of commodities and the "services." It may be urged that without their services the value of commodities would have been still greater because of the prevalent chaos. This is true of individual articles or commodities; but it is inconceivable that the **total** value of the **whole** stock of things in the community would have been greater, since the stock itself would have been so very meagre. It may also be urged that the value of their services is not what the community does pay, but what it would pay rather than go without them. But it will be realized that we cannot make the "value in use" a criterion of value in exchange or the **de facto** price; for were we to do otherwise, we shall have to place the value of the services of the producers of corn at infinity! Our contention is that the values of utilities created by any service paid out of the state revenues, so far as they need to be reckoned in, are already included in the increased values of commodities and "services" through which the state revenues are derived.[1] In this class would also come the services of Members of Parliament.

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[1] Marshall analyses speculation into three varieties—mere gambling, shrewd business ventures whose gains must be balanced by equivalent losses to other traders, and "constructive" speculation that tends to improve the general application of efforts to the attainment of desirable ends.—**Industry and Trade**, p. 252.

[2] It is even held by some that the services of this class consist in the mere fighting or destruction, and if peace, etc. result it is only because **all** nations are armed and each one is afraid to **begin** the attack. But to-day the object of maintaining a large fighting force is not—except in a few militarist states—primarily attack and destruction, but defence and a safeguard against destruction by others. Of course when war actually breaks out strategy may dictate that "attack is the best defence." But it is nevertheless true that with many a country the maintenance of large forces is prompted by the adage, **Si vis pacem para Bellum**. Moreover, military forces help to preserve internal peace, like the police force.

The domestic servants undoubtedly create great utilities; they give comfort and assistance, they relieve us from exertions, provide us with leisure and so on. It is curious that of all classes of workers, that of the domestic servants is the one most attacked and held up as "unproductive" from the time of Adam Smith[2] downwards. "There is doubtless in some houses a superabundance of servants some of whose energies might with advantage be transferred to other uses," says Marshall[3] "but the same is true of the greater part of those who earn their livelihood by distilling whisky; and yet no economist has proposed to call them unproductive." But for us, the point is that the utilities created by domestic servants are not durable, they exist only while being enjoyed and they are consumed in the same instant as they are produced. They are not wealth-utilities.

The musician and the actor may be dismissed on like grounds. The utilities they create cannot be spoken of as wealth (except when impressed upon the phonograph plate or the cinema film.) The artist and the sculptor do create utilities that are wealth; and their labour must be reckoned in.

We come now to the learned professions. A malicious spirit whispers that the lawyer may be dismissed without much ado, since the licensed and unlicensed freebooters are all in the same boat! But the former, we reply, has at any rate to recoup his license fees! In a well-behaved and humane society, the lawyer would no doubt, be the first to drop out of the scene; but we must not take a hypothetical society or an utopia; we are only concerned with the society that actually is. Taking the existing state of things it is fair to recognize that the lawyer is as useful an asset as a doctor or a teacher.

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[1] cf. Bowley's remarks in his article on "The definition of National Income," **Economic Journal**, March 1922. p. 7. But we fail to see how the "assumption" would arise that "because we must pay for a service whether we wanted it or not, it was therefore valueless to us."

[2] "A man grows rich by employing a multitude of manufacturers; he grows poor by maintaining a multitude of menial servants," wrote Adam Smith.

[3] Marshall II, III, 2.

Now as regards the professions, their services are like the charges for repairs to an engine; while the services of industrial classes are like the charges on coal for the engine. The latter is necessary to keep up energy and efficiency; the former arise merely because there is some depreciation, some wear and tear. Surely, depreciation cannot be any addition to wealth; if anything it must be set on the debit side. The services of the doctor and the lawyer arise because the social body is so much in a state of disease as it were. Their services are required to repair the wastage and remedy defects which should not have been allowed to exist or come about. The charges for their services instead of adding to the gross wealth of the nation ought to be deducted from it! At any rate these services do not result in utilities that can be called wealth. The lawyer may be ignored. The doctor and the teacher (including in the latter term all that take part in the improvement of knowledge or morals of others—e.g., authors—and of cultivating their bodily and mental faculties) do ultimately **in a sense** "tend to create material wealth," but **that** is not the immediate object of the services, nor the immediate result. It is also evident that "the greater the number of these people that a nation maintains, the less it has to expend on other things; while the more it expends judiciously in keeping industrial people at work, the more it will have for every other purpose." [1]

From the foregoing it will be seen that there is a real distinction between the services of the industrial classes and the services of the professional and other non-industrial classes described above; and that, while the former can be quantitatively measured from the commodities in which they are embodied, the latter are insusceptible of being measured.

As regards commercial and transport services, it may be thought the same objections apply to them, viz., that they are not productive of wealth-utilities. But the fact is that the analogy is not perfect.[2] The commercial and transport services do add to things "the property," as Mill says [3], of being in the place where they are wanted; which is a very useful property, and the utility they confer is embodied in the things themselves, which now actually are in the place where they are required for use, and in consequence of that increased utility can be sold at an increased price apportioned to the labour expended in conferring it. This labour, therefore, does not belong to the third class but to the first." Marshall also points out[1] that an attempt to distinguish between the labour of the miner who brings the coal up, and that of the railway-man who transports it to where it is wanted, will have no scientific foundation.[2] Though, therefore, we shall, and ought to, include their services in a computation of national wealth, it must only be to the extent of those added utilities, and not the whole amount of the big profits or profiteering that they may have made. When transport services were unorganized and the movement of goods took a great deal of time there was a possibility of there being a **super-abundance** and a consequent **lowering** of value; but it is not possible in these days of efficient organization and rapid transport.

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[1] Mill, *op. cit.* p. 49.

[2] Cf. Hume : "Lawyers and physicians beget no industry; and it is even at the expense of others that they acquire their riches; so that they are sure to diminish the possessions of their fellow-citizens as fast as they increase their own. Merchants on the contrary, beget industry by serving as canals to convey it through every corner of the state." (**Essay of Interest** Vol. II p. 71 in 1770 edition of **Essays.**)

[3] *Op. cit.* p. 47.

19. **Why the non-industrial classes must be excluded.**—We have now disposed off the two objections that had been raised, and have so justified our plan of including in a computation of national wealth the value of the material production only. It may be criticized that the whole discussion is a mere fight over words; and that, if we so chose, we might define the term wealth so that "services" not embodied in commodities formed no part of it; and everything else would follow. But, we submit, it is not a mere fight over words; it is an attempt to arrive at the true conception of **wealth** a plea that the term be held to mean what it means in common usage which has completely taken possession of it.

Measureable or real wealth can consist of material production only; services are only the **means** whereby external material commodities are invested with properties which make them serviceable to human beings. The ultimate end of labour is material production; while some labour gets at this immediately, some other gets at this mediately.

Wealth implies well-being and this implies primarily the sustenance of life. Now a country can keep its sustaining powers intact for a year if its industrial classes are judiciously employed, even when all the professional classes, and the domestic and civil and military servants are to be maintained as pensioners on the labours of the former. If the state chooses to maintain them in idleness for a whole year, it will be perfectly possible, though it is probable that the **share** which they receive may dwindle considerably. The productive resources of the state will remain unimpaired. But it will not do to reverse the position; a country will have entirely exhausted her accumulated stock, impoverished herself, and impaired her sources of production, at the end of the twelvemonth, if the industrial classes suspended their accustomed occupations and had to be maintained as pensioners, while the non-industrial classes continued theirs. Such a thing is absurd; it is inconceivable!

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[1] II, III, 1.

[2] Professor Smart clearly shows that the merchant is in a sense a part producer of goods—a servant in the long production-process, because "no production process is finished till the goods come to the consumer. When they leave the manufacturer they have merely completed a late stage in the process, not a final one." It is untrue to say that he merely takes toll on the goods as they passed through his hands.—The Distribution of Income pp. 23-6.

The share which the non-industrial classes receive in exchange for their services cannot be counted as if it were so much more wealth in the community; their share **involves a corresponding reduction** of the share of the industrial classes, so that even were we to represent the services as worth so much in the national dividend, it would avail nothing; the dividend would remain what it was, for the contribution from industrial classes would to that extent dwindle. [1]

But we **cannot do even that**; for the value of the "services" already finds an expression in the valuation of the commodities which enter into the computation. Just as in the value of the out-put of a boot factory are included the prices of **every** service, from that of the manager and the director right down to the porter at the gate and the sweeper; so in this nation-wide factory the value of the total production includes in it the price of **every** service rendered. So that in an estimate, in terms of money-values, of the total production of the country, the value of "services" is only **apparently** excluded.

20. **The national dividend is the wages-fund.**—Consider again the fact that the national dividend has to be **distributed**. When you view the national dividend from the point of view of a fund to be distributed among all the members of the society, it is easy to see that only material production can have a place in it; and that "services" which exist only while being performed cannot be reckoned in. The national dividend is **the** wages-fund. [2] Out of it are paid the services of **all**, whether head-workers or hand-workers. Mill's theory of the wages-fund was incorrect when applied to the wage-labour class; but it is quite correct to apply the idea of that theory to the whole distribution fund. While the theory as he stated was wrong in that wages might increase at the expense of the share which the capitalist-employer had intended to devote to the carrying on of his business, or to his private use;

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[1] See footnote to p. 33. *supra*.

[2] Marshall prefers to call it the Earnings-fund " or the " Earnings-stream "—Economics of Industry, p. 235.

the idea of all remuneration coming only out of a definite fund becomes, as it were, self-evident when looked at from the national view-point, when the wages-fund is identified with the national dividend. For, this will then be the sole source from which all remuneration must be derived, and there is nothing else, besides, at the expense of which remuneration may increase.[1] From the point of view of distribution also, "services" are a means of securing this remuneration, not a portion of the remuneration-fund themselves. It may be noted that with the problem of distributive justice we are not concerned.

21. **Conclusion.**—We have now fully explained our view point. We believe that our definition of **wealth** satisfies the requisites of a good definition: it is useful for scientific analysis, for the elements included in it are homogeneous; and it harmonizes with popular usage. Such services only which create utilities fixed in external and material objects have a right to be included in a calculation of a nation's **wealth.** Services the product of which consists merely of such non-measureable things as comfort, convenience, security, safety, pleasure, relief from exertions, etc., have no right to be included, because these utilities, however useful they may be to production, are not themselves wealth. There might have been **some** justification for contending that the product of "services" had not been included, if our computation of the national dividend had been quantitative only, (i.e., if it considered nothing more than so many tons of food grains, so much coal, cotton, jute, iron, so many yards of textiles, so many pairs of boots, so many tons of metal manufactures, etc.). But the justification totally disappears when we give the **money-value** of these goods; for these values directly or indirectly include the values of **all** services incidental to production; and we should only be guilty of a "double-counting" if we were to reckon in both the money-value of the total production and the money-value of those "services" that do not appear "visibly" to contribute to production.

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4. As Marshall says, (VI, II, 6), "The national dividend is at once the aggregate net product of, and the sole source of payment for, all the instruments of production within the country." (The quotation has been adopted by Professor Smart as a motto for his book, **The Distribution of Income.**

CHAPTER V

"Gross" and "Net" Income

1. **Ordinary meaning of "net" and "gross".**—The conception of national income will not be complete unless we explain an important distinction between "gross" and "net."Ordinarily, the words are familiar. The net income of a person engaged in business is his total income, minus "the outgoings that belong to its production;"[1] e.g., expenses for raw materials, for hire of labour, etc. And in the case of a nation's income the term **net** will provide for the using up of raw articles and half finished commodities in manufacture, wear and tear of machinery, depreciation of plant, and all other expenses required to "maintain capital intact," as it is said, or to "maintain property unimpaired." But we do not deduct from the gross value of the national produce the expenses on account of "salaries and wages" (as we do in the case of a company,) for the simple reason that, if we do deduct these, then as much will have to be added in again on the credit side of the national balance sheet on account of the income of wage-earners. All this is commonplace and easy to follow. But there are some little points which need comment.

2. **Is it value or physical efficiency that is to be "kept intact"?**—Firstly, what exactly is involved in the idea of a depreciation fund designed to maintain property unimpaired is a matter of some difficulty. This will not arise in a thorough-going stationary state. (Nor in the case of some kinds of land where it is a question of merely replenishing the fertilizers). But in the rapidly progressive states of our times the mere maintenance of the physical efficiency of a plant is not sufficient. We have also to provide for its complete obsolescence; for, the present machinery may soon become obsolete by the invention of improved forms, or through popular tastes for its products declining. And thus we are led to recognize that it is the **value** rather than the **physical efficiency** of a plant which is to be maintained intact.[2] This is actually done in some firms by some system of "writing off." This, however, to be perfect must imply a foreseeing of the future with accuracy, which is an absurdly high ideal!

3. **Expenses for 'training' the worker.**—Another interesting point is raised by Professor Cannan. "Though we allow," he writes,[3] "for continuing

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[1] Marshall II, IV, 2.

[2] Cf. Pigou's **Wealth and Welfare** pp. 17-19.

[3] **Wealth**, p. 154.

expenses in the present, we seldom think of allowing anything for the original expenses of training the worker for his particular occupation." This is answered by Professor Cannan himself: "Workers are not brought upon commercial principles like horses, with a view to the profits of owners. They are brought up and trained by their parents, by charities and by the state; and it is only in very rare instances that they are asked to repay any part of the cost." No deductions are made on this account; these expenses are merely one of the ways in which the income of the preceding generation (or of those who defray these expenses) is laid out. In his excellent discussion on real and nominal wages, Dr. Marshall also notices this point [1]; but he states, without explaining, that no reckoning is made on this account, nor on account of "the exhaustion of a person's health and strength in his work."

4. **Should cost of keeping up human efficiency be deducted?**—A similar point is the one raised by Professor Loria in his **La Sintensi Economica.** He would have us deduct from the income of the workman his sustenances of various kinds. The workman's true net income, then, is according to him, only that which is in excess of what is required to maintain efficiency. This is on the analogy of charges paid into a depreciation fund for capital. [2] This view, be it noted, is strongly taken in a masterly report on the "common measure of value in Direct Taxation" by a Committee of the British Association which included Farr, Jevons and Newmarch (**Report of the British Association for 1878.**) [3] So that it is suggested that the true net national income is only to be arrived at after deducting for what is necessary to keep the workmen in efficiency. Now, as nearly every middle-aged person works, while the aged and the children who do not work have socially and ethically the first charge on our income, it follows, if the suggestion is to be taken to its logical conclusion, that we must deduct for the expenses of the upkeep of the whole population, calculated on the basis of the minimum food requirement of normally constituted human beings at the different age-levels!

On such a calculation it may follow that the net income of a community, (e.g., of the Indian agricultural community), is zero or even a "negative figure"!

A deduction, such as the one suggested, may be sought to be justified on the ground that the expenses are for a physiological necessity; that a community which received nothing more than the subsistence minimum has really no income, because it has no choice but to spend the whole of it on food; and that if it did not even earn that much its very existence on the Earth's surface would be jeopardized!

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[1] Marshall, VI, III, 4.

[2] Cf. Dalton **The Inequality of Incomes.** p. 164.

[3] *Vide* Professor Edgeworth's article on **Income,** in Palgrave's **Dictionary.**

Apart from the reply that there is here the same objection, as in the case of the difficulty, raised by Professor Cannan and discussed in §3 above, to treating human beings on a par with machines, it may be said that here is a positive error as to the very root conception of "income." The basic idea of it is the total means of economic welfare available to a person (or a community), during a period of time, (say, a year). And that part which is spent on maintaining existence—the **subsistence minimum,** as we have called it above—does the work of bringing about economic welfare **par excellence.** It is therefore more definitely than anything else a part of the real or net income. As Dr. Stamp says,[1] "We can allow as a deduction from income the expenses incurred in getting that income, but not the various ways of spending that income itself upon the essentials of life." If the income is so low as to be below the subsistence minimum, it is still properly called "income." It is an error to say that in such a case there is really no income, or that there is a negation of income; for, as Professor Fisher says,[2] it is a false idea about income to suppose that "income could never trench upon capital."

At any rate, if Economics must use the familiar terms of every-day life as far as possible in the sense in which they are commonly used, then the term **net income** cannot be used in the sense suggested.

Finally, the argument seems to suggest, though not in so many words, that that part of income over the spending of which we have absolutely no choice is not any part of net income. It only needs to bring this implication out into light to show its utter absurdity. What otherwise would be the net income of a middle class person, who has absolutely no choice but that he must dress in a certain way, and must spend money on so many little things, in order that he may be able to move about in the society to which he belongs?

5. It will be well to indicate here summarily the various meanings of the term "net income" of a country.

Let the Value of gross produce=G

A = Expenses on seeds, raw materials and half-finished things consumed in production ; wear and tear of machinery, and depreciation of plant[3].

B = Taxes and rates.

C = Expenses for training the workmen generally and specially for their jobs.

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[1] Wealth and Taxable Capacity p. 50.

[2] Nature of Capital and Income. p. 111.

[3] The exhaustion of the soil is not counted, because it is assumed that the natural fertilising agents again return to the soil.

D = Expenses for keeping up the population (at least that section which is actively engaged in production) in physical efficiency.

Then, the " net income " of the country is variously regarded as :

(1) G—A .. (cf. the "net output" of the Census of Production in the United-Kingdom, 1907, and also Marshall VI, I, 10).

(2) G—A—B .. (cf. Mulhall's "net earnings" in his **Industries and Wealth of Nations.** *Vide* Chapter II § 3, page 15, *supra*).

(3) G—A—B—C .. (argued in para 3 *supra*).

(4) G—A—B—C—D (argued in para 4 *supra*).

We shall confine the term to the first sense viz., G—A.

CHAPTER VI

Summary of Part 1

1. **In any economic discussion which aims at being scientific, the terms to be used must be well defined. (Chapter I, paragraph 1, of this work.)**

2. In the term "national wealth," the modern tendency is to regard the "nation" as consisting of all the inhabitants of a **country** whether its nationals or not. The emphasis is properly on the country. (I, 2.)

3. In ordinary parlance **wealth** means an infinite variety of things, but its meaning is relative to the purpose in hand when using the term. In the present and like discussions it can only mean tangible, external and material things, which have an exchange value. (I, 3-5.)

4. So also in computations of **national wealth** all these limitations must be accepted, though in some other cases it may be permissible to take any one of the several broader meanings. (I, 6.)

5. The elements of **national wealth** are somewhat different from those of an **individual's** wealth. (I, 7.)

6. The term **national wealth** as such, has been used to denote (a) either the aggregate or the average wealth, (b) the wealth of the **country** or of its **nationals**, (c) present wealth or potential wealth. (I, 8.)

7. **Intangible "wealth"**, though important, nay, often even indispensable, cannot be reckoned in here. (I, 9-10.)

8. When talking of "national wealth," we must be careful to state whether it means its **capital** wealth or its **income** (or annual) wealth, for it makes all the difference. (II, 1-2.)

9. **There are several methods for computing capital-wealth, (e.g., capitalizing income-tax returns, capitalizing property tax returns, inventory, and census of wealth); and income-wealth, (e.g., from the income-tax returns, the occupational census, census of production, and census of income.) Each has its applicability under different circumstances. (II, 3.)**

10. **The term national income** is difficult to define precisely, but is generally defined as consisting of **commodities and services** that are exchanged for money within the community in a year. (III,1-2.)

11. **Income**, as defined by Dr. Marshall and Professor Pigou, is always **objective** and **measurable in money**. But these definitions suffer from a great many defects, chief of which are their arbitrariness and want of symmetry; for the bought and unbought kinds do not differ in essence from one another. (III, 3-5).

12. But they are further defective from the statistician's point of view in that "services" are really incapable of being valued in money. (III, 5; and whole of IV.)

13. The inclusion of "services" along with commodities in computations of national income gives rise to a great many paradoxes, not to speak of the danger of a double counting. Money is a most inadequate measure of services. (IV, 1-3 and 11.)

14. "Services" (i.e., which do not materialize into commodities) ought really to be left to be accounted for separately; and national income must be measured only by material and tangible commodities produced. (IV, 4.)

15. As this (our) idea is different from the conventional one, we suggest that these two be distinguished by the employment of different terms, and that nothing better can be done than opposing the hitherto convertible terms **national dividend** and **national income**, applying the former to **our** conception of the nation's annual wealth, and the latter to the conventional one. (IV, 5.)

16. Two objections to our plan of excluding "services" are possible. The first, that of giving a money-expression to "services" by the de facto money-incomes of those that render them, is rejected as fallacious; because it takes no account of innumerable unpaid or inadequately paid services, and because a correct money expression of "services" is an impracticability, (at any rate in our society,)and may lead us into absurdities. (IV, 6-8.)

17. Moreover, services are only a means to an end; they themselves are not the income, but it is the pleasure, comfort, assistance, security, etc. which are the income, but which, however, are insusceptible of a money-measure. In this respect "services" differ radically from commodities. (IV, 9-10.)

18. The second objection is that the services rendered by **non-industrial classes** are in no way inferior to or less useful than those of the **industrial classes**; why then neglect them? The answer is that we are **measuring wealth**, and these services do not produce **wealth.** (IV, 12.)

19. **Productivity** is not taken in the ordinary sense, but in the sense of potency to create **wealth-utilities.** (IV,13.)

20. The dispute between Adam Smith and his critics apropos **productive** had really no common ground. (IV, 14.)

21. We do not need to use the word **productive.** It will follow from our definition of **wealth,** as consisting only of the first kind of **utilities** as classified by **Mill,** viz., those fixed and embodied in external material things, (even if they are injurious.) (IV, 15, 17.)

22. With this definition, we find that the labour of none of the non-industrial classes, examined one by one, results in wealth-utilities. The commercial and transport services are on the dividing line, but ought properly to be classed with the industrial classes. (IV, 18.)

23. For these reasons the non-industrial classes are excluded; the share which they receive in distribution really involves a corresponding reduction of the share of the industrial classes. (IV, 19.)

24. But in an estimate of the **national dividend** in terms of **money** values this exclusion is apparent only, for the money value of the total production includes in it the price paid for every service rendered. (IV, 20.)

25. For the national dividend is the sole distribution fund, and the share of the non-industrial classes, if counted in addition to the value of production, will make us guilty of a "double-counting." (IV, 21-22.)

26. There are several opinions as to the exact meaning of "net" income, it being even suggested that the cost of the bare upkeep of the population be deducted from the "gross" to arrive at the "net" income. But we keep to the simplest and commonest acceptance of it, viz., what is left after deducting for raw and half-finished material consumed in production, and for wear and tear of machinery and depreciation of plant. (V, 1-5.)

PART II

MEASUREMENT OF THE WEALTH OF INDIA

AGRICULTURAL SECTION

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CHAPTER I

Introductory

POPULAR CONCEPTIONS OF THE WEALTH OF INDIA

1. **Popular Conceptions.**—With the European nations, blinded by the gorgeous splendour of the Moghul Court, as reported by travellers like Bernier and Tavernier, and by missionaries both trade and religious, the "fabulous wealth of the Indies" was for centuries a by-word. It may seem surprising that this should be so, for the travellers in the same breath had also described the depths of poverty into which a large mass of the population had fallen.[1] But the reason for this is not far to seek.

In the earlier centuries, India used to export to the European countries large quantities of spices and a considerable amount of fine fabrics, which, as they were not obtainable in Europe, were sold at very high prices. And as India had not much to import in return she was repaid by a continuous influx of precious metals.

According to the theories of the age both these facts lent colour to the idea that India was exceedingly rich, and becoming richer. In those days of the mercantilist theory, that country was considered to be the richest which had a **large stock of costly commodities** which she **exported**, and in return for which obtained gold and silver from her customers. The idea of wealth **per capita** was then absolutely unknown; perhaps it would have appeared ridiculous to men of those times to create an imaginary individual who could be said to indicate the wealth of a whole nation! That being so, and **the import of treasure** into the country being the sole criterion of its prosperity and wealth, it is not surprising that India was then considered by the European nations to be exceedingly rich. The stock of costly commodities was plainly visible: didn't they themselves import from India the costly spices, and silks, and shawls and muslins? So also was the fact of the continuous influx of treasure; didn't they themselves send it over to India?[1]

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[1] As for these two statements, *vide* the authorities quoted by Moreland in his *India at the Death of Akbar*, pp. 253-281; and in his *From Akbar to Aurangzeb*, pp. 197-204. Chief among these authorities are Bernier, Tavernier, Abul Fazal, de Laet, Monserrate, Sir Thomas Roe, Nikitan, Barbosa, Varthema, Linschoten, Salbank, Pyrard, della Valle, Pelsart and van Twist.

And the accounts of travellers and others fully corroborated the popular conception. Nor is there any reason to suspect exaggeration in their reports. For, from the traditional habit of hoarding neither the king nor the peasant was immune. There certainly were enormous hoards, as well in some of the temples, as in the palaces of the Emperors, the Nawabs and the rulers of the Southern Kingdoms.[2] These hoards were like the cake to which Mr. Keynes refers[3]: objects of veneration, not to be touched but to be allowed to grow. And in spite of these vast accumulations, some of which Bernier reports having seen with his own eyes, the splendour of the durbars of the Emperor and the Nawabs did not suffer in the very least; but on the contrary, it was so immense as to dazzle the eyes of any visitor: the enormous palaces, the gorgeously attired courtiers, the gilded equipages, imperial splendour, glitter everywhere!

Is it any wonder, then, that in accordance with these facts and the theories and ideas of the age, India was looked upon as rich beyond dreaming, a veritable El Dorado? Is it, again, any wonder that the trade with the Indies was the subject of fierce and persistent competition and the object of long wars between the more enterprising and civilized of the European nations? The monopoly of carrying on the trade of the East was the great prize for which men braved the numberless perils of the deep. Under the same impulse had the New World been discovered and the Cape rounded! Commercial ascendency, however, passed successively to the Portuguese, the Spaniards, the Dutch, the French, and lastly to the English, the greatest of those sea-faring nations which entered the lists.

So this superficial conception of India's wealth prevailed through four centuries. In the last century, however, certain people were slowly becoming convinced that India was not, and could by no stretch of language be described as, a rich country, seeing that millions of her people could hardly get one full meal a day. But popularly, the old conception—we had rather say the misconception—died hard. And it is only very recently,—thanks to the writings of people, both Indian and English, acquainted at first hand with the realities—Dadabhai, Romesh Dutt, Digby, Mr. Hyndman, Mr. Wilson, Sir William Wedderburn, to mention only a few—that the conviction has been slowly forced upon the people of England, and other Western countries, that India is a country where poverty is really appalling.[1] So far as the mass of the people are concerned, that poverty has been there all the time,[2] and, but for mistaken theories, a false glamour, and later on perhaps a deceptive whitewash, might have been as plain at any time as it is to-day.

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[1] Cf. Bernier's letter to Colbert. Also Sir Thomas Roe's remark: "Europe bleedeth to enrich Asia." The earliest evidence of this drain of gold into India is Pliny's statement that fully a hundred million sesterces (modern £1,000,000) were withdrawn annually from the Roman Empire to purchase useless oriental products. (*Vide*, Mookerji, A History of Indian Shipping and Maritime Activity, p. 84. etc., for some interesting evidence.)

[2] *Vide*, Sewell's A Forgotten Empire, pp. 205-6; Smith's Akbar p.3473 Moreland's India at the Death of Akbar pp. 284-6.

[3] In his Economic Consequences of the Peace (p. 17), referring to the double deception of accumulations of fixed capital brought about by savings.

"The riches of India are proverbial," wrote Sir Eric Geddes, President of the Federation of British Industries, (while expressing his opinion on the proposal of the "Indian Empire" Supplement of the **Times of India** in 1923). What does he mean? Is he one of the last ditchers holding fast to the exploded idea of the wealth of India? Certainly not. He is only referring to the power of India, considerable in the aggregate, to buy from the outside world a large stock of commodities annually, and to pay for them by exports of her own surplus produce. For, in the preceding sentence he says: "One hears a great deal talked about trade with Canada, Australia, New Zealand, South Africa, but little about the future of **those vast potential markets** included in the Indian Empire." Sir Eric clearly does not refer to the wealth per inhabitant or the average wealth; he only refers to our favourable trade balances and to our commercial solvency.

The old idea about India being very rich is hardly tenable in the 20th century. And careless expressions to that effect must be only understood to refer either to her aggregate wealth, (which having regard to her size and her population is really insignificant); or to the influx of precious metals which is still continuous;[3] or to her power as a consumer, which must needs be great seeing she has 319 million persons to care for.

The disillusionment on this side is now complete; but for the last thirty years there is visible a growing reaction which appears to have reached its zenith in the ultra-nationalist expressions of our days. These have gone entirely to the other extreme, and, if one were to accept **in toto** all the effusions of our nationalist press, it would seem as if India's impoverishment were growing yearly—ever since the British came to India! For the scientific attitude, which is also the impartial one, such literature would be at a heavy discount, indeed!

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[1] "To talk of Oriental wealth now, as far as British India is concerned, is a figure of speech, a dream!"—Dadabhai Naoroji.

[2] Mr. Moreland, discussing the question whether India was richer in the days of Akbar than she is now, tries to prove that she was probably worse off. (*Vide India at the Death of Akbar*, ch. VII and VIII.)

[3] As for the fallacy that the imports of treasure into India are "a good evidence of increasing wealth," *vide* Dadabhai Naoroji's *Poverty and Un-British Rule in India* pp. 230-272, and William Digby's *Prosperous British India*, for a clear and spirited exposure.

Swimming against the stream of popular prejudices and misconceptions is a difficult matter; and especially when the stream is torrential is there the danger of being carried away with it. But in a statistical work like the present, there is nothing to be afraid of so long as the **serenita scientifica** is preserved.

PREVIOUS INQUIRIES RELATING TO THE WEALTH OF INDIA.

2. **Historical.**—The field of investigation in which we have entered is one in which there **have** been a few inquiries before. It is necessary, therefore, briefly to review their results, firstly, because it is obligatory to recognize the work of pioneers, and secondly, because comparisons with them would furnish us with a criterion of the progress of India.

The more pertinent qustion some fifty years back was; "What **is** the wealth of India?" That needed an inquiry of static conditions, of conditions **as they existed** at a definite point of time. But to-day the more pertinent question seems to be: whether the wealth of India has been growing or diminishing. And this involves an inquiry of dynamic conditions, of conditions as **they have altered** during a period of time.

The best way to tackle the latter question is by a study of a series of inquiries of the first kind, and comparing their results, always taking care to see whether the inquiries have or have not been **in pari materia,** that is, containing identical items.

The place of honour must, of course, go to Dr. Dadabhai Navroji. But for a mere chronological convenience, we may first deal with the very interesting study of Mr. W. H. Moreland, **India at the Death of Akbar.**

In a chapter on the "Wealth of India," Mr. Moreland institutes a comparison between the wealth in Akbar's days and the wealth to-day—though he does not give any figures, for, as he says [1], "any dogmatism as to amount would be unjustifiable." As for agriculture, Mr. Moreland says, [2] "It is improbable that for India taken as a whole the gross income per head of the rural population has changed by any large proportion; it may possibly be somewhat smaller, more probably it is somewhat larger than it was, but in either case the difference would not be so great as to indicate a definite alteration in the economic position." The results of Mr. Moreland's inquiry may be summarised as follows: [3] "As regards primary production, agriculture yielded about the same average income as now, forests about the same, fisheries perhaps somewhat more, and minerals almost certainly less. As regards manufactures, agricultural industries show on balance no material change; the average income from miscellaneous handicrafts, wool-weaving and transport production other than ship-building, has substantially increased, but silk-weaving shows a decline.'' But all items are not of equal importance. Silk industry and fisheries were of small volume, and even a large decrease in them would be negligible in the total income. ''These losses are much more than counterbalanced by gains under mineral and transport production and miscellaneous handicrafts; but these gains in turn, substantial though they are, become very small when we set them beside the preponderating item of agricultural income.'' ''A detailed examination of three other sources of income—ship-building, foreign commerce, and textile (cotton and jute) manufactures—appears to justify the conclusion that they cannot have yielded so much more than now as to raise the average income of the country materially above its present level.''[1] Mr. Moreland concludes[2]: ''India was almost certainly not richer (in Akbar's days) than she is now, and that probably she was a little poorer.'' ''Our final verdict must be that, then as now, India was desperately poor, and that that deficiency of production which is the outstanding fact of the present day was, at the least, equally prominent at the close of the 16th century.''

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[1] *Op. cit.* p. 124.
[2] p. 286.
[3] p. 287.

Mr. Moreland's inquiry is useful for a **general** consideration of the question whether India was richer in Akbar's time than she is in ours; and for his purpose ''our'' time relates chiefly to the years between 1910 and 1914.

But for the purposes of comparing the present average wealth with that of 10, 20, 40 or 50 years ago, we have to go to the more precise estimates of other writers.

Dr. Dadabhai Navroji in his famous book **Poverty and Un-British Rule in India** works out the problem of income per head directly, from official data available. He takes the figures of 1867-1870. His result may be considered to refer to the year 1870. His calculations are naturally rough, but he takes care to give as much credit to the British rule as possible, so that he always errs on the ''safe side'' (i.e. over-estimation).[3] He shows that even with an exaggerated estimate the average per capita income of the people of India is exceedingly low. His results may be summarised as follows:—

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[1] p. 293. Mr. Moreland's conclusion on these three important points are not properly supported by evidence, and have been criticized as being quite faulty; e.g. by Prof. Shah in his **Trade, Tariffs and Transport in India,** pp. 28-47.

[2] p. 294.

[3] *op. cit.* p. 23.

Agricultural produce available for consumption ..	£ 260 Millions[1]
Other items of India's wealth :—Salt, Opium, Coal, and profits of Commerce	£ 17 „
Value of Manufacturing Industry	£ 15 „
Annual produce of stock, fish, milk, meat	£ 15 „
For any Contingency	£ 33 „
Total ..	£ 340 „

The total, therefore, is £340 million for a population of 170 millions, or 40sh. (Rs. 20) per head for an average **good season.** "When further allowance is made for exaggeration in these figures and for bad season, I cannot help thinking that the result will be nearer 30sh. (Rs. 15) than 40sh. (Rs. 20) per head."[2]

Dr. Dadabhai next considered the figures for necessary consumption, and decisively proved that the production per head was so low, than on an average the people had much less than even the food and clothing a criminal received in jail—"let alone all little luxuries, all social and religious wants, all expenses on occasions of joy and sorrow, and any provision for bad season."[3] Moreover every poor labourer did not get the full share of the average produce; as the upper and middle classes received much more, the

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[1] **Agricultural income:** c. 1870: (£1—Rs. 10).

PROVINCES.	Value of the Produce of Cultivated Land.	Population (Millions.)	Produce per head.
The Central Provinces	£ 16 Millions	9	£ 1·8=Rs. 18
The Punjab	£ 36 „	17·5	£ 2·1 „ 21
The North-West Provinces	£ 40 „	30	£ 1·4 „ 14
Bengal	£ 96 „	67	£ 1·5 „ 15
Madras	£ 36 „	26·5	£ 1·4 „ 14
Bombay	£ 40 „	11	£ 3·6 „ 36
Oudh	£ 13 „	9·5	£ 1·4 „ 14
Total ..	£ 277 Millions	170·5	(1·6) (16)
(Deduct for seed 6 °/o only) ..	£ 17 „	..	..
	£ 260 Millions	....	

£ 260 Millions is the produce of cultivation in a **good** season, available for consumption during a year. "If the Government of India would calculate the production correctly it would find the total a good deal under the above figures." (page 24.)

[2] The provincial figures would now be (i.e. after adding the additional £63 million or 7s. 5d. per head) as follows: The Central Provinces, 43s. 5d; the Punjab, 49s. 5d; the N.-W. Provinces, 35s. 5d; Bengal 37s. 5d; Madras, 35s. 5d; Bombay, 5d; and Oudh, 35s. 5d. Average 40 sh.=Rs. 20=less than one anna per day.

[3] p. 31.

lower classes received very much less than the average; while the average itself was somewhat below the lowest cost of living in jails!

The results of Dr. Dadabhai Navroji's inquiry were more or less substantiated by later inquiries. In 1882, Major Evelyn Baring (afterwards the Earl of Cromer) and Mr. (afterwards Sir) David Barbour made an inquiry into the economic condition of India which resulted in the production of a Note in which the annual income of India was summed up. But the details were never published, and even the inquiry itself was immediately pigeon-holed and has never been made public. We are enabled to quote the summary of the result from Mr. Digby's **Prosperous British India.** [1]

Agricultural Income 1882

Provinces.	Value of the gross Produce (At £ 1=Rs. 15)		Value of Agricultural produce per head.
The Central Provinces	£ 14·2 Millions.=	Rs. 21 Crores.	Rs. 20·9
Bombay	£ 26·0	„ 39 „	„ 20·2
Madras	£ 33·3	„ 50 „	„ 17·3
The Punjab	£ 22·8	„ 34 „	„ 17·1
Bengal	£ 69·0	„ 104 „	„ 15·1
The N. W. Provinces and Oudh	£ 47·8	„ 72 „	„ 14·8
Add for Burma, Assam and rest of British India	£ 20·2	„ 30 „	
Total ..	£ 233·3	„ 350 Crores.	

The non-agricultural income was, however, assumed to be equal to half the agricultural income; which is certainly a gross exaggeration! The combined result was shown to be:—

Agricultural Income :	Rs. 350 crores ..	=£ 233·3 Millions
Non-Agricultural income :	„ 175 „ ..	=£ 116·7 „
Total ..	„ 525 „	=£ 350 „

which divided among a population of 194.5 million would give Rs. 27 (£1-13s.-9d.) as the average amount per head. [At the rate of exchange prevailing in 1882, (Rs. 12 equal to £1), the sterling figure would stand at £2-5s.-0d.]

Of course, the non-agricultural income was grossly overstated; and as the details of the calculation were never made public it is impossible to scrutinize the figures of the agricultural income. Surely, Earl Cromer and Sir David Barbour could not have erred on the side of deficiency! The figures have been severely criticized by Mr. Digby in his book quoted above.

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[1] pp. 364 *et. seq.* and pp. 442 *et. seq.*

Mr. Digby himself made various estimates. In 1900, in reply to some observations made by the then Viceroy, Lord Curzon, at Simla, he wrote an open letter [1], in which, after mentioning the results of the Baring-Barbour inquiry, he proceeded to make a rough estimate himself for 1898-9.

He proceeded on the assumption that Government land revenue bears a definite relation to the out-turn. These ratios, taken from Mr. Romesh Dutt's investigation [2] were as follows:—

In Bengal, 5 to 6 per cent.; in the N. W. Provinces, 8 per cent.; in the Punjab, 10 per cent; in Madras, 12 to 31 per cent. (say 20); in Bombay, 20 to 33 per cent (say 25.)

Multiplying these figures with the total revenues, Mr. Digby obtained in all Rs. 285 crores.[3] The income per inhabitant in British India in 1898-9 was thus obtained:—

Agricultural Income for 1898-9 :	Rs. 285 crores	= £ 189 Millions	
Non-Agricultural income—half of above	„ 143 „	= £ 95 „	
Total ..	„ 428 „	= £ 284 „	

Divided among 24.5 crores of people (according to the Government of India expectations), the average income would have been Rs. 17-8-5! As at the census of 1901 only 23.1 crores were returned the figure should stand at Rs. 18-8-11, equal to £1-5sh.-1d.—in a "good" year. For the great famine year of 1899-1900, Mr. Digby guessed the figure would run down to Rs. 12-6-0.

It was to these and like remarks that Lord Curzon was replying in his speech on the Indian Budget in March 1901. [4] The concluding portion of his speech discussed the question whether India was becoming poorer, especially the agricultural section of the population. The full quotation will be too long here; the whole of it is interesting and may be read either in Digby's book on pp. 370-4 or in the **Financial Statement** of 1901-2 at pp. 212-4.

Among other things, the Viceroy pointed out an important fact which is apt to be easily forgotten. "There comes a time—it must come in India—when the agricultural income per head ceased to expand for two reasons: first, that the population goes on increasing and secondly, that the area of fresh ground available for cultivation does not increase **pari passu** but is taken up and thereby exhausted." This is an economic fact which cannot be gainsaid. If the population goes on increasing, as it has done in India, from 19 crores in 1850 to 32 crores to-day, then, unless the additional people find new employment in manufacturing, extractive, and transport industries, the income of the agricultural populace must dwindle. Firstly, there may be a diminution only in the income per head because all available land will have already been taken under cultivation, and intensive cultivation can hardly afford an additional income to keep pace with the additional populace. And ultimately there may be a diminution even in the **total** agricultural income; because of the inexorable working of the law of diminishing returns which even intensive cultivation cannot long avert.

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[1] **Quoted partly, Prosperous British India, pp. 364-9.**

[2] **R. C. Dutta Open Letters to Lord Curzon, p. 113.**

[3] *Op. cit.* p. 366.

[4] **East India: Financial Statement 1901-2. pp. 212-4.**

To continue Lord Curzon's remarks:—"When this point is reached, it is no good to attack Government for its inability to fight the laws of Nature. What a prudent Government endeavours to do is to increase its non-agricultural sources of income. It is for this reason that I welcome the investment of capital and employment of labour upon railways, canals, in factories, workshops, mills, coal mines, metalliferous mines, and on tea, sugar, and indigo, plantations. All these are fresh outlets for industry. These diminish **pro tanto** the strain upon the agricultural population and they are bringing money into the country and circulating it to and fro."

From figures collected for the Famine Commission of 1898, Lord Curzon worked out his estimate, which shows:

Agricultural Income : Rs. 450 crores = Rs. 20 per head, or Rs. 2 higher than in 1880.

Non-Agricultural Income—assuming it also has increased in the same ratio : Rs. 225 crores = Rs. 10 per head.

Total Rs. 30 per head as against Rs. 27 in 1880.

The figures were not gratifying but they atleast showed that the movement was in the progressive, and not in the retrograde direction.

These remarks of Lord Curzon roused the ire of Mr. Digby. He made a close analytical examination of all items, province by province.[1] For the agricultural wealth, he proceeded on his old basis, viz., of multiplying the land revenue which the Government derived from a province by the percentage which that revenue was assumed to bear to the gross produce. While for the non-agricultural income he examined in detail seventy-two items. The latter was certainly an improvement on the old absurd assumption that the non-agricultural income was equal to half the agricultural income. But the method adopted by Digby for agricultural income is untrustworthy and also involves a **petitio principii**: it tries to find out the gross produce from the multiplier which itself can only be obtained from the gross produce! The result will depend upon what multiplier you select.

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[1] *Op. cit.* pp. 561-4.

Whatever the value of the method, Mr. Digby's estimate of the total income was £259 millions.[1] Divided among 226 million people, it gives £1-3s. per head i.e., Rs. 17-4-0. We do not give any details because of a great confusion in figures and some serious errors in counting in Mr. Digby's book.

For several years, there have been no estimates made. Some years back, Mr. Findlay Shirras made an inquiry, but as his report was "confidential" we do not know what detailed figures he obtained, except that he gives the figure of the income to be Rs. 50 per head or thereabout for 1911 [2]. Somebody made an estimate of Rs. 86 for 1911, and this figure was quoted by the Hon. Mr. (now Sir) B. N. Sarma in the Council of State in February 1921. Mr. Shirras is at present engaged on a similar enquiry. [3]

A rough calculation of the gross production of India was very recently made by Professor K. T. Shah [4]. He obtains a figure of Rs. 1,470 crores, for 1921-2, which gives us Rs. 46 per head per annum. The estimate is a very rough one, and Professor Shah is "fully aware of its rudimentary character."

Recently (1924) the topic has again attracted much notice owing to the Hon. Mr. Pheroze Sethna's moving a resolution in the Council of State, proposing a comprehensive economic survey of India, and to the discussion that followed there, which led to the appointment of the Taxation Committee.

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[1] p. 611.

[2] *Cf.* **Working Class Budgets—Bombay**, p. 11.

[3] In his **Enquiry into Working Class Budget in Bombay** Mr. Shirras writes: "The annual per capita income (men, women and children of the Bombay Working classes) is Rs. 149-6-0. According to the 1921 census the most usual per capita income in the Presidency for urban localities, excluding the large cities, was Rs. 100 and for rural localities about Rs. 75." In a footnote Mr. Shirras says that he had an occasion to revise Lord Curzon's estimate of 1901, and obtained **on the same methods** Rs. 50 for 1911. But a somewhat more elaborate method gave him the figure of nearly Rs. 80. "In arriving at these figures the total estimated value of agricultural produce is worked out, and, on the same assumption that the income of the agriculturists and non-agriculturists is distributed between the two classes in proportion to their numbers, the average income so-called per head of the total population is determined." He obtains agricultural income as Rs. 876 crores, and non-agricultural, 3/8ths of this, i.e. 328 crores, making a total of 1204 crores, which divided by the population (of British India) gives Rs. 49 or nearly Rs. 50 per head.

The Hon. Sir B. N. Sarma, replying to a debate on the "Export of Food Grains," said: "The question (of income per head) was gone into in 1914, and it was found that the agricultural income, even at the prices ruling in 1911 was somewhere about Rs. 86, and according to the present prices it will be much more, say 50 per cent. higher." Probably Sir B. N Sarma was only quoting Mr. Shirras' estimate.

[4] **Trade, Tariffs, and Transport in India**, pp. 119-21.

The following is a Summary of the Results:

Estimates by	Relating to year	Income per head.
Dadabhai Naoroji	c. 1870	Rs. 20 (40sh.)
Baring-Barbour	1882	„ 27 (45sh.)
Digby	1898-99	„ 18·9 (25sh.)
Lord Curzon	c. 1900	„ 30 (40sh.)
Digby	c. 1900	„ 17·4 (23sh.)
Mr. Findlay Shirras	1911	„ 50 (66sh.)
(The Hon. Sir B. N. Sarma)†	1911	„ 86
Professor Shah	1921-22	„ 46

† Quoted in the Council of State, 6th March 1921.

SCOPE AND EXTENT OF BOOK I

3. **Scope.**—In this book it is intended to make a computation of the income wealth of India.

The question of computing capital-wealth will not be touched upon here. And this for two reasons: firstly, "the national income is a better measure of general economic prosperity than national wealth",[1] (i.e., capital wealth); and secondly, "national capital wealth can be stated with less certainty than the national income."[2] In the case of India, both these reasons apply with greater force. Not only will the capital wealth of India be very difficult to calculate, but even if some calculation were made, it would give us no clear idea of the economic prosperity of the country.

As regards income, our aim in this and the two following parts will be to arrive as accurately as we can at the **gross** income of the **country**. An attempt to find out the necessary allowances which have to be made in order to arrive at the **net** income, will be made in Book II.

Our inquiry shall pertain to the whole of India, including Burma and the Native States. In this respect it will be different from other inquiries which omit either Burma or the Native States, or both, e.g., Mr. K. L. Datta's on the rise of Prices, or Mr. Dubey's on the Indian Food Problem.[3] It is true that there are many difficulties in the way of getting proper statistics about the Indian States; and such statistics as are available are unreliable and untrustworthy. But the Native States are not economically different from the British Provinces and the country must be regarded as a whole in order to have a proper perspective of its prosperity. Moreover, since 1919-20, the inclusion of the big Hyderabad State in agricultural and other statistical returns, and the more correct figures from other states, have left much less excuse than formerly for the exclusion of the Native States. We have therefore included them in, making due allowances for any defects or omissions in official statistics.

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[1] **Marshall, II, IV, 7.**

[2] **Stamp, British Incomes and Property, p. 376.**

[3] **Indian Journal of Economics, Vol. III.**

Extent.—It is evident that the income-wealth for any one year can give no true index of the country's average prosperity during any reasonable period of time, unless the year chosen happens to be quite an average one, typical of the whole period, which it is extremely difficult to say. A period of two or three years is also not a good index; because short spells of prosperity or adversity are not uncommon. We have, therefore, commenced our inquiry from 1900 and divided it into these four periods:—

(i) The "Pre-War Period" embraces the years from 1900-1 to 1913-14. This was on the whole a period of unbroken prosperity, of fairly even prices, of exchange stability, and of a constant value of money. These years constitute a definite period, and their average will give us a very clear idea of the state of our economic well-being before the war.

(ii) The outbreak of the war definitely ushered in a new period: the period of the war and its aftermath. This is a period of great and rapid changes in industrial activity, violent trade fluctuation, high prices, and exchange instability. Cosmos is now replaced by chaos. It will only be after some years that we shall be in a position to say when the period may be said to have ended, and the period of normality commenced. We are inclined to believe that the dividing line will be drawn somewhere about 1925. But that is for the future to decide. As it is, however, our "War and Post-War Period" commences from 1914-5 and comes down to the end, i.e. 1921-2, which is the latest year for which figures are available. An average of these 8 years will give a fairly good idea of the war-time prosperity.

(iii) In order to give an idea of the average position during the twenty-two years from 1900, we have also worked out figures for a "Whole-Period average." This strikes the **via media** between the low prices of the first period and the highly risen prices of the latest years; and will give an admirable idea to those who do not wish their conception of the average annual income to be blurred either by the exaggerated post-war prices, nor yet by the low prices that prevailed in the beginning of the century. It is recognised on all hands that in the near future, when normal times shall come in, prices will go down again; but they will very probably not go down so low as in 1904, for instance. Some part of the recent rise is likely to be permanent. In that case, our "whole period average" will be very useful for purposes of comparison with estimates that may be made in the future after the advent of normality.

(iv) Lastly, we have made an estimate of the income for the latest year for which data are available. viz., 1921-2. This figure must always be quoted whenever the **present** income-wealth of the country is to be indicated. This year is fairly typical of the triennium 1920-1 to 1922-3 so far as prices are concerned; while from the point of view of agricultural production it is a "fairly normal" year.[1] The same cannot be said for trade; for the great depression of 1920-1 still left some effects in 1921-2; but this will affect only one sixth, if even so much, of our total production, and therefore of our total annual wealth, and that too in a slight measure. All considered, then, the estimate for 1921-2 may be taken to be a good index of present day conditions.

Problems not dealt with in this Book.—The problem of the distribution of the income is not touched upon in this Book because it is a very important problem and requires a careful study by itself. It is, however, touched upon in connection with Taxable Capacity in Book II.

So also is postponed to the next Book the problem of consumption, de facto and hypothetical. It is true, as says Dr. Mookerjee,[2] that our income per head cannot be properly understood without reference to this biological circumstance concerning our normal consumption requirements, viz., that owing to the natural supply of calorie, we do not require food of high calorific value, or that the normal level of proteid consumption on this side of the globe is about 30 per cent. lower than in the colder countries of Europe. This is quite correct, but to enter into this topic would, again, take us out of the proper scope of this book which aims at calculating the quantity and value of our production. Hence the question of formulating a standard of normal consumption requirement for India is postponed to Book II.

PLAN AND METHOD OF THE INQUIRY

4. **Method.**—Some people estimate the annual wealth from income-tax figures, some from the amount of currency in circulation, some from customs receipts or from figures of foreign trade, and some by a kind of a census of production. What method will be best suited depends in each case upon the purpose in hand and the degree of accuracy requried.[3]

For reasons already stated in Part I, Ch. III, **ante** the method best suited for a country like India, where reliable and fairly comprehensive income-tax figures do not exist, is to estimate the **gross production in the year.** This is the most accurate method since the total production is *really the fund* from which all services are ultimately remunerated.

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[1] **Estimates of the Area and Yield for 1921-2.** p. 1.

[2] **Principles of Comparative Economics** Vol. I, p. 79.

[3] *Vide* Part I, Ch. III, of this Book

The **gross** production will correspond to the **gross** annual wealth or income of the country. In order to find out its **net** income, we shall make some rough calculation for deductions to be made on account of raw materials and half-finished commodities consumed in the production. The depreciation of plant will be a very small amount, and may be ignored. No allowance will be made for the exhaustion of the soil, as that may be taken to be made up for by animal and green manures and leaves which return to the soil to restore its fertility.

The net income however, which is **available for distribution within this country**, will necessitate a still further deduction on account of all foreign payments, in the shape of home charges, remittances of banks and other concerns, payment of interest-charges, etc. The consideration of this is taken up in Book II.

Plan.—The plan adopted in the following portion of the work is to make two broad sections, the agricultural and the non-agricultural, called Parts II and III. In the former will be dealt the quantitative estimates and valuation of all agricultural produce, as also the income from live stock, from forests and fisheries. In the later section, we shall estimate the value of the production of the manufacturing industries, and of the output from mines. Together with this will be discussed the income from handicrafts, from trade and transport, and from civic property. The whole will then be summed up in Part IV.

Forests are included in the agricultural section, because forest produce has very close affinities with agricultural produce. As regards fisheries, these are also included in the same section for no other reason than that it will be less tolerable to include them in the section which deals with manufactures. As regards mining, it is also an "extractive industry" like agriculture and fisheries; but it has no affinities with agriculture, and therefore, we have considered it along with metallurgical industries in Part III.

As agricultural produce is by far and away the most important source of India's wealth, forming nearly 91 per cent of the total, it has naturally claimed a much greater attention than the items treated in Part III.

CHAPTER II

Economic Geology and Geography of India

1. **Influence of Natural factors on production.**—The wealth of a country depends upon the products of its extractive industries and the productions of its manufacturing industries, while the utilities created by both these are added to by its commerce. But these in their turn are not the results of mere human will, but are determined by natural conditions. These natural conditions are climate, the superficial appearance, the geological formation and the fertility of the soil, water, and situation. But these may be grouped into two only: the geological and the geographical. We leave out the ethnic factor. This is also very important, even from the purely economic point of view, in as much as production depends, among other things, also upon whether the "stock" is hardy and brainy or not, that is upon the physique and the mental calibre of the race. But, though important, we shall not make much over it, because the ethnic factor is itself the result of the physical and geographical conditions, working their influence through several generations past. Moreover the discussion on this factor would serve to fix attention less directly on the real and material forms of wealth we have to discuss, and more directly on such factors as efficiency, productive ability, organisation, etc., which are the means to the end rather than the end itself.

It should not be supposed that the geographic and geologic conditions we have mentioned are the sole determinents of the economic conditions of a country. The real process of nature is not so clear-cut, and there are actions and interactions between all the factors, geographic and geologic, ethnic, economic, and thence a host of others, like the political, the social, and the biological factors. Each factor in turn acts upon and is acted upon by others. It is frequently explained in our text books how Man from being the slave of the "Environment" has become its Master. This is the economic theory of Progress in a nutshell! But the primary factors are more or less clear, viz., the geologic and the geographic, and these [1] are still potent in backward countries and in primarily agricultural countries like ours. Our revenues (which are the outcome of production) are still "a gamble in rains." Hence, the desirability of confining our remarks to these two factors only. Together they may be described as the "Place" factor. Every one, we believe, is—(he must hasten to be if he is not)—familiar with the famous triad of Professor Geddes.[2]

Place
Work
Folk

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[1] Though less dominant to-day in advanced industrial countries where there have been practical applications of our scientific knowledge.

[2] Explained in his Civics Exhibition, and his lectures in the University School of Sociology. *Vide* also articles in the Indian Journal of Economics, Vol. III. (esp. p. 42).

and their co-relates and inter-relates. It expresses in a sort of a mnemonic way the idea of the foregoing paragraph: how the place factor determines the work of the people of the area, and how these two together determine the people, that is to say their manners and customs, their morals, their institutions, their habits, their intellect, their skill, their physique, in a word the stage of their civilization. And though Professor Geddes is not unmindful of the counter-action of the Folk on the Work and the Place, yet the sequence in which he has arranged the three shows the dominant influence of the place factor.

2. **The Geological regions of India, and their bearing on minerals and production.**—The geological condition of a country may be regarded either from its "superficial" aspect, or from the point of view of its physical structures. With the latter we are not very much concerned, for their influence is limited to the mining industries only.

The most salient feature about the physiography and geology of India is that it is divided into three distinct regions which can be marked out with peculiar characteristics.[1]

The triangular region of the Peninsula, which is all that is left of the former Gondwana continent as some believe, consists of the oldest rocks known as the Archaean rocks. These afford some fine quartz schists and iron-ore schists, as in the Salem and Bellary districts of Madras, or in the Chanda, Raipur and Jubbulpore districts of the Central provinces. In this region, too, are found some excellent auriferous quartz veins, as in Kolar.

The extra-Peninsular region is the mountainous region on the north-west, north, and north-east of India. This has comparatively very youthful rocks of the Cretaceous and Tertiary age. The folded rocks at the ends of this region yield large quantities of petroleum, as in the Arakan system (including Assam and Burma), or in the north-west near Attock and Rawalpindi. The discovery of oil fields in the latter region was a feat of deductive reasoning. The geological maps revealed the existence of what is technically known as an anticline near this region, which made the existence of oil-fields a probability amounting almost to a certainty. Boring operation undertaken by the Attock Oil Company led to the discovery of oil within 400 feet of the surface.[2]

Between the two regions lies the Indo-Gangetic plain, consisting of a rich alluvial land. Within this region are situated the great Gondwana coal-fields which supply 95 per cent. of India's coal. Because of the abundant development of concretionary carbonate of lime, the great alluvial plains also supply the material known as **kankar** which is one of the most widespread sources of lime.

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[1] *Vide* Ball's **Economic Geology of India.**

[2] *Vide* article on the "Utility of Geology to Man" by L. L. Fermor, Director of Geological Survey of India, in the **Journal of Indian Industries and Labour**, Vol. II, part 3, Aug. 1922. p. 319.

The hill slopes of Assam and the Nilgiris afford very valuable terraces for the cultivation of tea and coffee.

The connection between mineral deposits and geological structure and age is very close. Coal, for instance, cannot exist in the Peninsular regions, because the igneous rocks would make its existence impossible. Nor can oil be found in the ancient crystalline rocks. It is owing to this knowledge that the Geological Survey Department is "frequently able to proffer negative advice and prevent the waste of money on a search for a mineral in a country where its existence is almost a geological impossibility." [1]

There is also another way in which physical structures influence production, viz., by influencing climate and the distribution of water. The Himalayas, for instance, perform a great economic function. Their enormous height prevents all the moisture-laden south-west currents from passing over to Central Asia; some parts of India are thus blessed with a double monsoon. Again, they are the sources of some of the world's greatest rivers; which with their tributaries—some flowing from the Vindhyian system—drain the largest continuous stretch of land in the world comprised in what is called the Indo-Gangetic plain. The Western Ghauts prevent the monsoon from passing over to the Deccan tableland. Consequently, fertility in the Peninsular region is confined only to the strip along the Western Coast which receives the brunt of the monsoon, and the Deccan is very warm and dry. The inclination of the table land being eastwards, all great rivers of this area flow into the Bay of Bengal. Fortunately, the Eastern Ghauts leave a very wide margin of open land in the east and south-east,which receiving the waters of the rivers the Kistna, the Godaveri, the Pennar and the Cauvery, is again a very fertile region. The later mountain systems of Burma afford only "gangways" of fertile regions which are the basins of the great rivers the Irrawady, and the Salween.

3. **The Superfices: Influence of Soils.**—The varieties of the soils are very numerous in India, but the chief kinds may be noted here. [2]

The alluvial soils are the most extensive and the most important from the point of view of agriculture. They comprise the greater portions of Sind,

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[1] *Ibid.* p. 319.

[2] *Vide* the **Imperial Gazetteer of India, Indian Empire**, Vol. III. p. 8 *et seq.* Also Sir **George Watt: Commercial Products of India**, p. 608 and various other places.

Gujarat, Rajputana, the Punjab, the United Provinces, Bengal and the Godaveri, Kistna and Tanjore districts of Madras. There are alluvial strips along the eastern and western coasts of the Peninsula, and also in Pegu in Lower Burma. With moderate rainfall the alluvial soils are capable of growing a great variety of kharif and rabi crops, because the soils being very deep there is naturally a great deal of fertility. Large quantities of rice and of sugarcane are grown in Bengal, Burma, the United Provinces, etc., where the climate is generally moist, and of wheat in the Punjab, the United Provinces, etc., where it is dry. The best soils for rice are clay or clay loams of fair depth, as are found in Bengal; and those for sugar-cane are good firm loams or light clays. This is because rice and sugar-cane require soils through which water can percolate freely. A water-logged soil is fatal to successful cultivation of sugar-cane; and drainage must be secured by a previous sub-soil. The alluvial soils are also the best fitted for jute; for jute is an exhausting crop on soils which are not benefited by inundation silt; and requires land which is liable to be submerged when the plants have made some progress. Water and dampness during the whole period of growth are the requisites. Ideal conditions exist only in Bengal. But as conditions suitable for rice are suitable for jute also it may be expected that,if increased demand makes it worth-while, jute cultivation may also spread into the rice tracts of Burma and Assam and in the deltaic tracts of Madras.

The Deccan trap soils comprise an area of over 200,000 square miles, covering the greater portion of the Bombay Presidency, Berar, and much of the Central Provinces and the Hyderabad State. The soils are generally poor and not deep; they are productive only in years of favourable rainfall. But the lower regions have deeper and darker-coloured soils which are frequently improved by washings from the uplands. It is here that the "true black cotton soil" occurs. This soil is sometimes very deep, as in the valleys of the Tapti, the Nerbudda, the Godaveri and the Kistna; the depth being for the most part due to alluvial deposits. The soil, being very dense in consistency, often becomes unworkable in the monsoon and is therefore better adapted for the rabi crops of wheat, linseed, gram etc. While parts of the black cotton soil of the Deccan trap area, where cotton and jowar are extensively grown in the Kharif season, are generally those only which are from 3 to 4 feet deep and are mixed with nodular pieces of limestone which have much lime below. The lighter soils are very much suitable for the cultivation of bajra and other millets, and pulses; while in the heavier black soils, the staple crops are cotton and jowar. Now, jowar requires pure or mixed black soil, and one dense and deep enough to retain moisture, and between 30 and 40 inches per annum of rainfall. Hence it occupies the lower-lying region of the Deccan, as well as the more open black soil plains, while in the shallow, mixed black and red soil of Madras it gives place to bajra. Linseed also requires either a moisture-holding black soil, or clay soils. It is therefore extensively grown both in the Central Provinces and in the alluvial tracts of Bengal and the United Provinces. Similar soils are required for wheat too; hence there is, besides the large cultivation in the alluvial tracts, also a not inconsiderable production on the deep moisture-holding black soils of the Deccan. The chief crops rotated with wheat are linseed, grain, rabi, jowar, safflower, etc. As regards cotton, there are some varieties (taking nearly 8 months to mature) which are grown as "dry" crops, and which are therefore suited only to deep moisture-holding black soils. The finest soils of this nature are in the districts of Surat and Broach, while those of Khandesh, Berar, the C. P. and Kathiawar produce second grade cottons. But there are some other varieties which are early ripening; they are hardy and can be grown on light soil, such as the Indo-Gangetic alluvium; thus we have the "Bengals" of Commerce.

A third main division of soils is what are known as the crystalline soils. These occupy the whole of Peninsular India outside the areas of the Deccan trap and the alluvium. In this tract are included almost the whole of Madras, Mysore, S.-E. portion of Bombay, the eastern half of Hyderabad, two-thirds of the Central Provinces, Orissa, Chota Nagpur, the Santhal Parganas and Birbhum District in Bengal, some districts in the south of the U.P. and in Central India. These soils vary enormously, but there are two principal varieties: there are the red soils lying on metamorphic formations as in Madras, and there are the laterite soils. The former is a sandy clay coloured by iron peroxide. The red or red-brown loams are very fertile, while the light-coloured loams are the poorest. Those intermediate in character are fairly good. The soils in the Belgaum, Dharwar, and North Kanara Districts of Bombay are laterite; they are simply soils lying on or adjacent to laterite rocks. They are clay-like in consistence and yellow-red or reddish-brown in colour. These soils are very good for fruit-trees, and there is a large mango cultivation in that area. Rice can also be grown well on lower-lying terraced and embanked fields, where water supply is plentiful.

In general, crystalline soils are suited to a great variety of crops, the crops grown varying with rainfall and irrigation facilities. Thus there are grown in this region not only crops peculiar to alluvium soils, like rice, sugar-cane, jute, indigo, cocoanut, etc., but, also crops suited to trap soils, like cotton, sesamum, millets, etc. Tea, coffee and cinchona also find ideal conditions in the crystalline soils of South India. As regards tea, it long used to be supposed that it can be cultivated only along hill-slopes, but it is now recognised that there is nothing in this preferance for slopes;[1] rather, the flatter the land the better, **ceteris paribus**. What tea requires is a soft soil which its roots can penetrate, and above all a soil which is well drained.

From this brief account of the chief classes of Indian soils it will be seen that the alluvial soils are the most fertile, but the crystalline soils also respond to irrigation almost everywhere and produce good crops. Really-speaking "fertility" is a relative term, and soils which are fertile for one crop are not so for another. For each class of soils, again, there are various degrees of fertility. Hence any general statement has to be limited and qualified.

From the point of view of chemical composition all the soils of India are deficient in phospheric acid, in nitrogen and in organic matter. But, as Mr. J. S. Cotton says,[2] "despite continuous cropping and the small use made of manure, there seems little evidence to support the view that they are deteriorating in fertility."

Although it is true that the soil characteristics of any area determine the crops of that area, it must be remembered that they are themselves determined by the rocks and the other sources from which they are derived.

4. **Influence of Forests.**—In considering the superficial aspect we may also include the influence of forests. There are in India over 100 million acres under forest, i.e., nearly 25 per cent of the total area. To this we must add for the area of forests that cover the slopes of mountains, which area does not exactly enter into the official figures to its full extent.

The influence of forests on production is both direct and indirect.[3] The direct influence includes the enormous quantity of timber, fuel, and other useful produce they afford; the grazing to countless herds, which assumes a special value in years of drought; the supply of house-building and thatching materials, of fuel and minor forest produce, to villagers around, which so much adds to their comforts of life; the manure for fields afforded by their leaves; not to mention the revenue to the Government.

Forests also exercise an indirect influence through water-supply and climate. They are responsible for the storage of rainfall water in the soil, given off subsequently by gentle flow. They are also responsible for the moisture let off in the air by transpiration from the foliage. In the vast deciduous forests of upper India, the leaf flush occurs in the hot-weather; and the effect of the unfolding of the new foliage is noticed in the appreciable reduction of temperature in the surrounding areas. In regions where the monsoon is heavy, but where there are no forests, all the water would run off the bare soil, without benefitting the surrounding country; while the presence of forests would help to retain much of the water which otherwise flows away into the sea, perhaps causing disastrous floods in its lower courses. Consequently, in areas of heavy monsoon, large afforestation schemes have to be undertaken. Forests serve to restore equillibrium and constancy in water supply while their absence exposes land to the tempestuous action of sudden floods. "In short, forests form the head-works of Nature's Irrigation in India." [1]

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[1] Sir George Watt, Commercial Products of India p. 220.

[2] Oxford Survey of the British Empire, Asia, p. 116.

[3] *Vide* Imperial Gazetteer Vol. III. (Indian Empire) p. 101 *et. seq.*,

Forest growth itself is influenced by climate, by aspect, by the composition of the soil, and by the depth of the permanent water-supply. For practical purposes Indian forest tracts are divided into four zones, called the Wet, Moist, Intermediate and Dry. The first receives a rainfall of over 75 inches, the second over 50, the third over 30, and the fourth under 30 inches. In each zone there are to be discovered different kinds of forests, classified into the Deciduous, the Evergreen and the Dry forests; also into the Alpine, the Tidal and the Riparian forests.

The most important are the deciduous forests. From the foot of the Himalayas they extend throughout the length and breadth of the Peninsula. These are the most extensive, and, considering the quantity and variety of their produce, the most valuable of forests. Next come, in moister climates, the Evergreen forests, chiefly on the West Coast of India and in Burma. The Dry forests are found in the "Dry" regions of the Punjab and Central India. They are not worth much.

The other classification is according to elevation, tides and inundation, rather than rainfall. The Alpine forests comprise the tree vegetation between 3,000 and 12,000 feet; we have such forests in Northern India, Burma and Assam. The Tidal forests occur on alluvial lands subject to the overflow of the tides; as those on the coast of Burma, in the Sandarbans of Bengal, and in the northern coast-districts of Madras. While the typical Riparian forests are to be found along the river systems of the Punjab and Burma.

5. **Climate.**—The influence of climate on production is, like that of forests, both direct and indirect: It influences directly by helping or retarding the fuller development of plants and trees; and indirectly through its effects on the efficiency of human labour. Under it are included the temperature, (including the extremes of heat and cold,) the moisture, the direction and force of the winds, and the salubrity or otherwise of the atmosphere.

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[1] *Ibid*, p. 104.

As regards India, the climatic conditions are for the most part unfavourable. The Deccan regions are for the greater part of the year hot and dry, and cultivation cannot go on all the year round. The climate here is enervating. The northern regions are indeed very salubrious; but are subject to great variations of temperatures.

As India stretches from 8 degrees N. to 35 degrees N. and lies in the Torrid and Temperate Zones, while she has also a variety of altitudes ranging between the sea-level and 29,000 feet, she has a great variety of temperatures. Consequently, we have vegetations of all kinds: tropical, sub-tropical, temperate, sub-arctic and arctic; but mostly, of course pertaining to the first two.

The rainfall also is very unevenly distributed. In the same day's paper, you may read of appeals for funds: one for the famine-stricken districts of Gujarat, the other for districts in Kanara or in Madras devastated by floods! There are places in India where rain is unknown; there are others where over 500 inches of rain is common. Over the greater part of the country, the average rainfall is about 25 inches. The Western Coast strip and Assam receive an exorbitant supply of rainfall.

India is a country of many climates. There are parts, as in Rajputana, which are eternal infernos. There are other parts, like the Vale of Kashmir, which are an earthly paradise of fruits and gardens, with a climate of eternal spring. As in many other things, so in climate, India is a land of contrasts. So it is difficult to speak in general terms. The Malabar coast region, the Ganges Valley, the Himalayan slopes, Assam and Burma, have plentiful rainfall, and consequently a varied and luxuriant vegetation. The rest of India may be considered to be dry, but here too are various degrees of fertility depending on soil and irrigation. Burma is, perhaps, next to Bengal, the most prosperous province of India. Watered by a couple of great rivers throughout its length, drought is unknown, and the soil is always fertile.

From the foregoing it will be realized that no sweeping statements can be made with regard to the influence of the climatic factor in India.

6. **Influence of the situation factor on trade and on distribution of industries.**—The last factor is the geographical factor of situation. This is purely a geographical factor, unlike some of the preceding ones which pertain both to geology and to (physical) geography.

The salient point in connection with the situation of India vis-a-vis the rest of the world is that it has a very strong mountain-barrier in the north and north-east, which cuts her off entirely from the hinterlands of Asia. If that makes her immune from foreign aggression, that has also the corresponding disadvantage that it cuts off her trade with the interior. But for these huge mountains, Central Asia would have been an important sphere of influence for India—if we may be allowed to use that obsolete phrase in these days of mandates! Consequently, our trade with Asiatic countries is chiefly by sea, with Persia and Iraq, with Siam, China and Japan. Fortunately, India has a very long coast line which makes her accessible to trade from every direction. Our coast line runs into some 2000 miles. And though there are not indentations enough to afford us many harbours, still we have the incomparable harbour of Bombay, which serves the needs of many a one. There are other good harbours also, and at convenient places: Karachi to serve the trade of Sind and the Punjab; Calicut for Mysore and west Madras Presidency; Madras for the eastern part of that Presidency; Vizagapatam for the Northern Circars districts of Madras, for the Nizam's Dominions and for the Central Provinces; Calcutta for the greater part of east India; Chittagong for Eastern Bengal and Assam, and Rangoon for Burma. Recently, the construction of a harbour at Vizagapatam has been projected by the Government in co-operation with the Bengal Nagpur Railway Company.

These seven to eight ports are nothing compared to the size and extent of India, and the enormously long littoral. Calicut and Vizagapatam are at present both inaccessible to the bigger steamers—drawing more than 20 to 30 feet of water. Consequently, the tendency is towards a concentration of trade at only four or five ports like Bombay, Calcutta, Rangoon, Karachi and Madras.

This concentration has another interesting result in the development of railway communications, which have been established to feed the ports. Every important railway system is designed to feed the one or the other of the chief ports.[1] The smaller ports have, therefore, decayed.

Although this is generally regarded as the chain of causation, it may yet be argued that the decay of the smaller ports was inevitable, even without a conscious action on the part of railway companies, if we are to contemplate in terms of big trade and big steamers. The tendency for modern trade is to concentrate at a few centres. Transport enterprises, when they begin, have as their object the linking up of the hinterland with the few centres that have already come into some prominence through other causes, especially owing to the presence of capital. But the action of transport enterprises is to still further accelerate the importance of these centres, and they thus become one of the effective causes of their growth. The process is therefore cumulative; cumulatively too goes on pari passu the process of decay of the less important centres. There was not for a moment a doubt that the first railways should emanate from Bombay instead of from Surat, or that Madras should have been the port of call instead of Cuddalore!

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[1] Viz. the six ports of Bombay, Calcutta, Rangoon, Karachi Madras and Chittagong.

In connection with the littoral may be mentioned the peculiar shape of the Indian peninsula, which makes India face both east and west. This makes India peculiarly favourable for international trade; while the long coast-line of Burma which faces west towards India helps to carry on an extensive Indo-Burman trade.

Coming now to a consideration of the interior of India, we are struck with the very important part played by our rivers. The Ganges is certainly a very great economic asset, being navigable for more than a thousand miles inland, which fact explains the growth of a long series of populous and historic cities. But the fact of the navigability of the Ganges does not of itself explain the existence of these cities, the centres of various industries. For the Indus also is a big navigable river, and the longer of the two, but has hardly a single city of any importance along its banks.[1] The additional cause of the growth of a series of great cities along the Ganges must be sought in the existence of innumerable tributaries and the inherent fertility of the soil along the plain. On the other hand, the Indus runs mile after mile through desert land; and where, as in the Punjab, it has many tributaries, and a fertile soil, there you have the large cities again.

Rivers have, since the birth of human civilisation, been the great highways of commerce, and the creators of big cities. It will however be well not to overstate their importance; and to give some weight atleast to the natural factors of the soil and mineral deposits. If you explain the importance of Allahabad as due to its being at the confluence of two historic rivers, why is it that no decent map of India (drawn even on a scale of 100 miles to an inch) will care to give you the name of the town (may be a village) where the Punjnad, the channel which carries the water of the great rivers of the Punjab, joins the Indus? Secondly, how can you explain the birth and growth of the city of Jamshedpur?

This brings us to the last point, viz., the influence which natural production exercises on the distribution of industries. Natural supplies of raw material finally determine the distribution of the principal industries of any locality. The actual centres in these localities where the industries spring up are determined by proximity to markets. A glance at any commercial map of India will give the explanation why the cotton mill industry exists and thrives at Bombay and Ahmedabad; the jute mill industry in Calcutta, the 24 Parganas, and Hoogley; rice mills in Rangoon and most other centres in Burma, in the 24 Parganas, Burdwan and other places in Bengal, in Sind, and in the deltaic regions of Madras; Coffee works at Mangalore and in Malabar; Sugar refineries at various centres in Bihar, the U. P. and Madras; the iron and steel industry at Jamshedpur; the Mica industry at Giridih in Bihar; the Woollen industry at Cawnpore, and at Srinagar in Kashmir. That map will also show which are the natural ports for the staples of produce.

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[1] Sind Hyderabad near the Indus is hardly comparable to any of the great cities on the Ganges or the parallel stream of the Jumna. Tatta, once famous, has now sunk into insignificance.

The existence of power resources will accelerate the development of industries but these are not the **sine qua non** of those industries. The cotton mills of Bombay have been working for years although there were no power resources in the vicinity, and coal had to be brought all the way from Bengal or from remoter South Africa. The development of hydro-electric enterprises in the Western Ghauts, however, will no doubt greatly help the development of the cotton industry in Bombay. One exception to this generalization is in the case of the iron and steel industry, where it is necessary that iron-ore and coal deposits should exist in close contiguity.

Subsidiary industries follow no general rule; but they grow up in the neighbourhood of the bigger industries, supplying them with implements and materials, utilizing their by-products, facilitating transport, and in other ways conducing towards the economy of their material.

CHAPTER III

Agricultural Wealth—Quantitative Data

1. **The utility of quantitative data.**—The introduction of money-economy has ousted out the old method of estimating wealth by simple enumeration, and has provided a new unit for estimating wealth of individuals and of nations. But that money is an inadequate and inconstant measuring rod is recognised on all hands; and hence, we have the familiar distinction in economics between “money-income” and “real income”.

Quantitative data, therefore, are in this respect superior to mere price-valuations. And in the United States and Great Britain, we often have census of Production in which attempt is made to give the details about the quantity of production from every industry in the country, along with its value.

If we are comparing distant periods with a view to compare the progress of the nation as a whole or of the various classes, or if we are comparing the wealth of different nations at the present time, or the wealth of the same nation at comparatively short intervals, (say ten years),—in all these cases the mere money-valuation figures give no idea; the comparison would—even with improvements in the collection and methods of statistics—be extremely rough and unreliable except for very general purposes. As Professor Nicholson remarks, [1] “There is little meaning in the estimates of the wealth per head of population in terms of money.”[2] And Dr. Bowley expresses much the same idea when he writes: [3] “To say that the average income of the inhabitants of the United Kingdom is £40 is nearly meaningless except as an arithmetical entity for use in arithmetical processes. The total depends upon the existing method and the momentarily resulting scale of valuing various services and commodities; the scale is continually changing, and the total would easily be affected, for example, by a redistribution of income by taxation or under a socialistic regime.”

This being a serious defect in money-valuation figures, we require, if not to supplant, at any rate to supplement them, by a survey of the principal forms of wealth, their quantity and quality: the principal particular elements in national resources, as given, for example, in works of commercial geography.

Even quantity figures standing alone would give no indication of the wealth of a country; they must be related to the growth of population. And, in comparing the figures for a series of years, care must be taken to see that the figures relate to identical items. In official figures of totals, there is the real danger that the items included in the totals are not the same for the whole series of years. We have often noticed people carelessly stating that "the area under cultivation for such and such a crop increased from X acres in year A to Y acres in year B, an increase of so much per cent;" but there may be no real increase, at any rate, no increase to the extent indicated, for more provinces, districts, tracts, may have been included in the figures for later years than were included in those for the earlier years. Apropos of this, we may remark that the figures for Native States, given, for instance, in the **Agricultural Statistics of India**, Vol. II, must be used with great caution for comparative purposes. Until 1919-20, the figures did not include returns from several states, including the most important one, Hyderabad. Since that year, Hyderabad being thrown in the balance, we get greatly increased returns. The total area sown thus increases from about 35 to over 64 million acres of which over 25 millions are to be credited to Hyderabad alone.

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[1] **Principles**, I, p. 214.

[2] As, for example, in Mulhall's **Dictionary of Statistics.**

[3] **Elementary Manual of Statistics**, p.170.

With these preliminary remarks we may proceed to the production figures for India.

FIGURES OF PRODUCTION FOR INDIA

2. **Quantitative data; how obtained.**—"It will be advantageous to examine the data of production for it is out of production that wealth accumulates"—W. R. Ingalls, **Wealth and Income of the American People.**

For the purposes of our quantitative data, three courses were open to us:

(1) To adopt the figures of Mr. K. L. Datta, given in his famous **Inquiry into the Rise of Prices.** This method we had to reject because firstly, Mr. Datta excludes Burma and the Native States; secondly, his inquiry extends only upto 1912; and thirdly, his method is too elaborate for our purposes.

Mr. Datta admits in his report [1] that "Burma is the granary of India and exports a large quantity of rice to India," (not to speak of its other products); but that "the economic conditions prevailing there are wholly different from those of India proper," and therefore, for the purposes of his inquiry, "Burma may be omitted as being really a separate country." But we cannot do so as an inquiry like the present one must relate to the whole of India. Mr. Datta also excludes the Native States from his inquiry, "under the orders of the Government of India."

Secondly, Mr. Datta's figures would avail us only upto 1912; for the figures of the later years we should have had to look to other sources—at the sacrifice of uniformity in method.

Lastly, his method of obtaining the figures for out-turn is based upon an elaborate formula:—

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[1] Vol. 1, (Report), p. 4.

CIRCLE OUT-TURN=CIRCLE AREA × CIRCLE NORMAL YIELD × CIRCLE'S PERCENTAGE OF YEAR'S CROP TO NORMAL.[1]

As regards the figures of the **area sown** in the circle, Mr. Datta complains that the official figures have their origin "in the mere guesswork of the village chowkidar" or other village official. He, therefore, revised the figures in view of direct first hand data and information which he and his assistants were able to obtain from their extensive tours. The **circle normal yield** of any crop is the weighted average of its normal yields in the districts comprised in the circle, the normal yields being those published by the Agricultural Departments. While the **circle's percentage of the year's crop to normal** was similarly obtained by taking a mean of the percentages obtaining in the various districts comprised in the circle.

Such a method would be needlessly elaborate for us who have to do with averages and with the averages of averages. It would entail infinite labour.

(2) The second course open to us was to obtain outturn figures by multiplying area under any crop with its yield per acre. We felt that that was a bad course because this unit yield (or yield per acre) was itself obtained by dividing total yield by the acreage; and if the yield figures were directly obtainable, why should we set about it in the wrong way? This method has, however, been useful (being the only one) in cases where figures for the total yield were not directly obtainable, but it was possible to arrive approximately (by induction or analogy) at figures of yield per unit. We have therefore used it to check and supplement results otherwise obtained.

(3) The final course which we have adopted is to take the figures of yield directly, from the several issues of the **Estimates of the Area and Yield of the Principal Crops in India** (published by the Commercial Intelligence Department of the Government of India.)

3. **Cautions to be taken in using the Official Figures of the Yield.**—In using the figures of the **Estimates** certain precautions have to be taken. For instance, we found that there were some discrepancies in figures for the same year given in different issues. The later figures being corrections on the preceding ones in view of more reliable data being available, we have made use of the **latest** figures for any year.

Secondly, the figures in the **Estimates** are not always complete. It is not unusually found that writers are in the habit of quoting figures of yield blindly from the "Abstract Table." A glance at the Detailed Tables will suffice to reveal that the abstract table gives totals of **only such figures as**

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[1] *Ibid.* App. D, pp. 223, and 226.

have been "**available,**" that is, which have been **reported.** It will therefore be necessary to make allowances for all deficiencies. Allowance has also to be made for the Native States. The recent issues of the **Estimates** report (for some crops) the yield for the States of Hyderabad, Mysore, and Baroda; but the earlier ones did nothing of the sort. Some small allowance has also to be made for the yield of such British Provinces as do not enter into the detailed tables. The "Introductory Note" of each issue states how much may be added on this score in respect of the principal crops: this yield is often negligible. We have accordingly thought it preferable to give a separate column for **Errors** (in which we indicate the additions necessary to be made to official figures), rather than to give the final figures all at once; in order not to confuse those who may happen to compare **our** results with the figures given in the **Estimates.**

4. **Utility of the column of Errors.**—It is necessary in conducting our inquiry to keep before our mind the ideal of exactness. If we neglect the thousands, on the ground that our inquiry being so vast we need not scruple about a few thousands here or there, these thousands will in the end grow into lakhs and crores, and vitiate the final results very materially. Take care of the thousands, somebody said, and the millions will take care of themselves! Hence the necessity of being as exact as possible, and of taking stock of all factors however minute they may initially appear. Taking the rice figures for instance, if we merely take the average of the official figures for the last 22 years without making any allowances of the sort we have indicated, we shall be found to be nearly 6½ million tons below what the real average should be. Now taking the average wholesale price of a ton of rice to be Rs. 125, the error would amount to something over 800 million rupees!

Illustration of the magnitude of the Error.—To illustrate the magnitude of the error in official figures, let us take the figures of **rice** for the year 1904-5; for rice has by far and away the largest outturn, and is the largest single item in the inventory of India's wealth.

The official estimate of the yield is only 22.4 million tons.[1] But this figure excludes important items:—

(a) Bihar and Orissa:—The figure excludes the feudatory states, returns for which in 1920-1 and 1921-2, are 1.1 and 1.2 million tons respectively.[2] The error, therefore, is at least a million. **1 million tons.**

(b) **Madras**:—**Figures upto 1906-7 relate only to the raiyatwari villages, but since that year estimates for zemindari and inam lands have also been** included.[1] Further, estimates for years prior to 1911-2 are generally defective [2], with the result that we have on a low estimate a deficiency of a million and a half tons (below the rough average yield for years subsequent to 1912.)

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[1] **Estimates, 16th issue; p. 7.**

[2] **Footnote; 24th. issue, p. 13.**

1½ million tons.

(c) Burma:—Figures down to 1911-2 relate only to the chief rice growing tracts of lower Burma.[3] When allowance is made for the remainder, the outturn increases by at least a million. **1 million tons**

(d) The United Provinces:—Figures for the earlier years are not available. We add two millions which is the average for the remaining years.

2 million tons

(e) The Central Provinces and Berar:—Not only are figures not available, but even the name of the province is unmentioned upto the 16th issue. Add a million and a half tons being the average for the later years.

1½ million tons

(f) Assam:—Figures not available upto this year, though from 1905-6 they are included under Bengal. The average for the later years is a million and a half: **1½ million tons**

(g) Bombay and Sind:—The same story. We must add one million for Bombay and a half for Sind on the same principles. **1½ million tons**

(h) Coorg, Hyderabad, Mysore and Baroda:—Figures are not available upto 1911-2, 1920-1, 1915-6, and 1912-3, respectively. But yield for Baroda and Coorg is negligible, while Hyderabad and Mysore will give half a million atleast.[4] **½ million tons**

(i) Remaining Provinces and States:—For the Punjab, the N.-W. F. P., Delhi (since 1911) and Ajmer, no estimates are made, but guesses are given in the introductory notes to each issue. The yield amounts generally to less than half a million tons. Add to this the outturn for the remaining Native States which (considering their area) can hardly give much over half a million. **1 million tons**

Gross total error 11½ million tons

From this we have to deduct for area under cultivation which was less than the average; for, our allowances assume that the area cultivated in 1904-5 was the same as the average area cultivated in the later years, which is not true; the area in 1904-5 being slightly less. To allow for this we deduct 1½ million tons from the gross total error of 11½ million tons. So we get a net total error of 10 million tons in 1904-5! Such big errors in a single year will no doubt also vitiate our final figures to a considerable extent.

5. **How the coefficient of Error is calculated.**—The above method for discovering the deficiencies and errors is certainly cumbrous and capricious.

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[1] Footnote, 16th issue; p. 7.
[2] Footnote, 19th issue; p. 9.
[3] Footnote (any issue).
[4] *Vide* 24th issue, p. 13.

We have therefore resorted to the following method, which proceeds on some rational basis, and will therefore secure uniformity, though it may not give entirely precise results:—

TOTAL ERROR = AVERAGE YIELD PER ACRE × (TOTAL AREA CULTIVATED MINUS AREA FOR WHICH YIELD IS REPORTED.)

In other words, the total error will be equal to the unit yield multiplied by the difference between the above areas.

(i) **The average yield per acre** for the principal crops is given in the **Estimates of the Area and yield.**[1] But these figures are only worked out for 1912-3 and the subsequent years. For the earlier years we take the average yield to be the average of the unit yields for the ten years reported. (1912-3 to 1921-2.) It is hoped these averages will yield fairly correct results especially as when applying the average yield of 1912-1922 to the years prior to 1912-3 we shall bear in mind the fact that the season was favourable or unfavourable in a particular year. Thus 1907-8 and 1908-9 were notoriously bad years (as bad as 1918-9), while 1909-10 and 1910-11 were exceptionally good years (as good as 1916-7 or 1917-8).[2]

(ii) **The total area cultivated** is the area reported for the British Provinces in the **Agricultural Statistics of India**[3] **Vol. I,** plus the area for the Native States reported in Vol. II, plus (approximate) area for Native States not reported, (the most glaring instance being Hyderabad prior to 1919-20), and for certain feudatory states in Bihar and Orissa. Where area under a certain crop in any province in a particular year is not available, an approximation is made, regard being had to the capacity of that province as gauged by figures for other years.

(iii) **The Area for which yield is reported** is that given in the **Estimates of the Area and yield.**

The total yield will thus be equal to the yield reported in the **Estimates,** plus the yield discovered by the above method. This system we claim to be the best available, as it makes use of official figures of yield as much as possible, only supplementing them where they are deficient.[4]

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[1] *Vide* 24th issue, table 2, p. 9.

[2] See 19th issue p. 9, where these years are marked "season very favourable."

[3] Published by the Department of Statistics, India.

[4] Our final result for any year may be taken to be correct within a margin of error of 5 per cent. But those that do know something about the theory of averages and errors and probabilities will readily understand that it is extremely unlikely, indeed, almost impossible, that all the details will be wrong in the same direction and to the full extent. Much of the error vanishes in the average; and we have, besides, to do not with averages but with their averages! We find our final figures to tally in more than one instance with those given by Mr. Datta—"tally," that is to say, having regard to the fact that Mr. Datta has omitted Burma and the Native States. As for the more recent years the Department of Statistics and the Commercial Intelligence Department may justly claim that the statistics they furnish are becoming fuller and more precise every year.

The method of working out the Error will be illustrated by a table in the case of Rice. In other cases such tables are not necessary, as the errors are minute. But the reasoning and method in the case of rice have been followed **mutatis mutandis** in other cases.

Difficulties in the case of wheat are far less acute, for the official estimates of yield practically cover all the wheat-growing areas; while whatever slight additions remain to be made in respect of Madras, Burma, and the Kashmir State are stated in Introductory Notes. Moreover, as nearly all the Native States are represented in the official Estimates there is very little to be added on this score also. The error hardly exceeds ·3 or one-third of a million tons in any year.

Yield of Rice

Year.	Official Figures.	Plus Error.	Final Figures.
	(Million Tons.)		
1900-01	20·6	10·2	30·8
1901-02	19·2	10·6	29·8
1902-03	23·4	10·1	33·5
1903-04	22·0	10·2	32·2
1904-05	22·4	10·9	33·3
1905-06	21·6	9·6	31·2
1906-07	21·3	9·8	31·1
1907-08	19·0	8·7	27·7
1908-09	19·5	7·8	27·3
1909-10	28·5	10·1	38·6
1910-11	28·6	10·2	39·0
1911-12	28·5	6·8	35·3
1912-13	28·4	5·2	33·6
1913-14	28·8	2·6	31·4
Average 1900-14	**23·7**	..	**32·5**
1914-15	27·2	2·2	29·4
1915-16	32·7	2·7	35·4
1916-17	35·0	2·7	37·7
1917-18	35·9	2·6	38·5
1918-19	24·3	1·7	26·0
1919-20	32·0	2·4	34·4
1920-21	27·6	1·9	29·5
1921-22	33·0	2·1	35,1
Average 1914-22	**31·0**	..	**33·3**
General Average 1900-22	**26·3**	..	**32·8**

6. Rice and Wheat.—By far the most important single item in the category of India's wealth is Rice. The marginal table gives us the total yield of rice in each year from 1900, with averages for the pre-war, and the war and post-war years, and a general average for 22 years. The total yield is obtained by adding to the official estimates of yield, as given in the issues of the **Area and Yield of the Principal Crops in India,** the amount of "error" or deficit in yield which has been calculated in the manner indicated in the preceding section. The following table gives the details of the calculation:—

Error in Figures relating to the Yield of Rice

Year.	Area under cultivation.			Area for which Estimates of Yield have been obtained.	Deficit in Area.	Yield per Acre.	Deficit in Yield.
	British India.	Native States.[1]	Total.				
	Million Acres.					Tons.	Million. Tons.
1900-01	69·0	**6**	75	48·9	26·1	·39	10·2
1901-02	70·0	**6**	76	48·5	27·5	·39	10·6
1902-03	71·6	**6**	77·6	51·8	25·8	·39	10·1
1903-04	69·5	**6**	75·5	49·6	25·9	·39	10·2
1904-05	73·5	**6**	79·5	52·5	28·0	·39	10·9
1905-06	73·4	**6**	79·4	54·4	25·0	·39	9·6
1906-07	73·5	**6**	79·5	54·1	25·4	·38	9·7
1907-08	75·9	**6**	81·9	54·7	27·2	·32	8·7
1908-09	72·8	1·9+**3.2**	77·9	53·1	24·8	·32	7·8
1909-10	78·7	2·2+**3·5**	84·4	60·8	23·6	·43	10·1
1910-11	78·5	2·6+**3·8**	84·9	61·0	23·9	·43	10·2
1911-12	76·6	2·4+**3·7**	82·7	65·2	17·5	·39	6·8
1912-13	78·7	2·4+**3·7**	84·8	71·8	13·0	·40	5·2
1913-14	76·9	2·5+**3·6**	83·0	76·0	7·0	·38	2·6
1914-15	77·6	2·3+**3·6**	83·5	77·1	6·4	·35	2·2
1915-16	78·6	2·5+**3·8**	84·9	78·3	6·6	·42	2·7
1916-17	80·9	2·7+**3·8**	87·4	81·0	6·4	·43	2·7
1917-18	80·6	2·5+**3·8**	86·9	81·1	5·8	·45	2·6
1918-19	77·6	2·2+**3·5**	83·3	77·6	5·7	·31	1·7
1919-20	78·7	3·4+ 3·2	85·3	79·4	5·9	·41	2·4
1920-21	78·1	3·4+ 3·2	84·7	78·9	5·8	·36	1·9
1921-22	79·7	3·4+ 3·2	86·3	81·2	5·1	·41	2·1

Rice is the chief grain crop of India and is a staple food for millions of her population. It is extensively grown in the alluvial soils of Bengal, Bihar and Orissa, in the river basins of Burma, and in the deltaic regions of Madras. On an average, it occupies a little less than 80 million acres, i.e., 35 per cent. of the total cultivated area of India. It is "the premier crop of India both as regards area and the value of its outturn. Moreover, unlike others, it is the only known crop which could be grown without an elaborate system of drainage over millions of acres."[2] The outturn figures do not show any great variation between the earlier and the later years; this is because the increase in area under cultivation has been very slight. If however, we take only the official figures, uncorrected by the addition of the error, we find an increase of yield from 20 million tons in 1900-01 to 33 million tons in 1921-22. But, as pointed out above, such general statements based on official figures alone are likely to be vitiated by the fact of the incompleteness of official figures for the earlier years. The highest yield on record is 35.9 million tons in 1917-18; but according to our calculation the first place should be given to the yield of 1910-11 which is computed to be 39 million tons, as against 38.6 million in 1909-10 and 38.5 million in 1917-18. The lowest yield is in both cases in the year 1918-19. The general average yield for the last 22 years is 32.8 million tons according to our calculations, and 26.3 millions according to the official estimates. These figures cannot give an idea of the enormity of the outturn. But if all the produce were placed in (the big) railway wagons, each carrying 40 tons, and if 40 such wagons made a train, it would require 20,500 trains to accommodate the whole produce! Considerable quantities of rice are annually exported, principally from Burma. The exports in pre-war years amounted to about 2.3 million tons on an average, but have since declined, being about 1.6 m. during the war years, and about 1.3 m. tons in 1921-22.

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[1] With allowances for such States as are not included in Vol. II of the **Agricultural Statistics of India.** (*e. g.*, Hyderabad, feudatory states of Behar, etc.)

Note:—Figures not given in official statistics and which are only estimated are printed in dark type.

Explanation of the Table may be obtained from § 5 of this chapter, pp. 87-8, ante.

[2] **Review of Agricultural Operations in India**, 1921-2, p. 2.

The "error" column, and the table in which it is fully worked out, show that the official figures of yield are becoming more exact and more indicative of the real outturn, year by year.

Wheat is the next most important crop in India, and occupies about 30 million acres or 13 per cent. of the total cultivated area.

It is extensively grown in the Punjab and the United Provinces, and to some extent in the Central Provinces and the Central India States. It is a staple food of the people of North-Western India, just as rice is of those of eastern and southern India.

In the case of wheat the official figures are almost exact, covering all the wheat growing tracts, and hence the figures in our error column are very negligible. The highest yield was 10·4 million tons in 1916-17, the next best being 10·3 m. in both 1910-11 and 1919-20. The lowest was 6·2 m. in 1901-02. The general average is 8·7 m. tons; but the average yield for the last few years is somewhat greater than in the earlier years of the century. This alone is not a test of progress; for the process of replacement of the country wheats by more efficient varieties (e.g., "Pusa 4.") is continuously going on.

Wheat also used to be exported from India (Karachi) in considerable quantities; the pre-war average exports being 1·3 m. tons; but there is a rapid decrease in the export of this grain, only 81,000 tons of wheat (and 64,000 tons of wheat flour) having been exported in 1921-22.

Yield of Wheat

Year.	Official Figures.	Plus Error.	Final Figures.
	(Million Tons.)		
1900-01	7·0	·3	7·3
1901-02	6·0	·2	6·2
1902-03	7·9	·3	8·2
1903-04	9·6	·3	9·9
1904-05	7·5	·3	7·8
1905-06	8·5	·3	8·8
1906-07	8·4	·3	8·7
1907-08	6·1	·2	6·3
1908-09	7·6	·2	7·8
1909-10	9·6	·3	9·9
1910-11	10·0	·3	10·3
1911-12	9·9	·3	10·2
1912-13	9·8	·1	9·9
1913-14	8·3	·1	8·4
Average 1900-14	**8·1**		**8·4**
1914-15	10·0	·2	10·2
1915-16	8·6	·1	8·7
1916-17	10·2	·2	10·4
1917-18	9·9	·2	10·1
1918-19	7·5	·1	7·6
1919-20	10·1	·2	10·3
1920-21	6·7	·1	6·8
1921-22	9·8	·2	10·0
Average 1914-22	**9·1**	..	**9·3**
General Average 1900-22	**8·5**	..	**8·7**

7. **Minor Food Grains.**—The following table gives the yield of Barley Jowar, Bajra, Maize and Gram:—

Yield of Minor Food Grains

Year.	Barley.			Jowar.			Bajra.			Maize.			Gram.		
	Official Figures.	Plus Error.	Final Figures.	Official Figures.	Plus Error.	Final Figures.	Official Figures.	Plus Error.	Final Figures.	Official Figures.	Plus Error.	Final Figures.	Official Figures.	Plus Error.	Final Figures.
	(Figures in Million Tons.)														
1900-01	..	3·2	3·2	..	7·0	7·0	..	4·0	4·0	..	2·2	2·2	..	4·5	4·5
1901-02	..	2·7	2·7	..	6·9	6·9	..	3·6	3·6	..	2·3	2·3	..	4·1	4·1
1902-03	..	2·8	2·8	..	7·2	7·2	..	3·7	3·7	..	2·4	2·4	..	4·3	4·3
1903-04	..	3·2	3·2	..	6·8	6·8	..	3·8	3·8	..	2·3	2·3	..	4·7	4·7
1904-05	..	3·2	3·2	..	7·2	7·2	..	3·0	3·0	..	2·3	2·3	..	4·5	4.5
1905-06	..	3·2	3·2	..	6·7	6·7	..	3·3	3·3	..	2·2	2·2	..	4·5	4.5
1906 07	..	3·3	3·3	..	6·7	6·7	..	4·0	4·0	..	2·3	2·3	..	5·2	5.2
1907-08	..	3·3	3·3	..	6·8	6·8	..	4·0	4·0	..	2·4	2·4	..	6·2	6.2
1908-09	..	3·4	3·4	..	7·6	7·6	..	4·3	4·3	..	2·5	2·5	..	4·5	4.5
1909-10	..	3·5	3·5	..	7·2	7·2	..	4·2	4·2	..	2·5	2·5	..	5·1	5.1
1910-11	..	3·4	3·4	..	7·0	7·0	..	4·1	4·1	..	2·4	2·4	..	5·4	5.4
1911-12	·9	2·8	3·7	2·4	3·7	6·1	1·1	1·5	2·6	1·9	·3	2·2	4·4	1·5	5.9
1912-13	·8	2·3	3·1	4·4	2·7	7·1	2·3	1·1	3·4	2·2	·6	2·8	3·3	1·4	4.7
1913-14	2·6	·3	2·9	4·0	2·7	6·7	1·9	1·1	3·1	2·0	·5	2·5	1·9	1·0	2·9
Average 1900-14 ..	..	..	**3·2**	...	..	**6·9**	..	..	**3·6**	..	..	**2·4**	..	..	**4·7**
1914-15	3·0	·4	3·4	5·1	2·8	7·9	2·6	1·1	3·7	2·0	·5	2·5	3·8	1·5	5·3
1915-16	3·1	·3	3·4	6·0	2·9	8·9	2·3	·9	3·2	2·5	·6	3·1	3·4	1·1	4·5
1916-17	3·3	·3	3·6	5·1	3·0	8·1	2·9	1·2	4·1	2·3	·5	2·8	4·2	1·5	5·7
1917-18	3·3	·5	3·8	4·4	2·6	7·0	2·1	1·1	3·2	2·4	·5	2·9	4·4	1·5	5·9
1918-19	2·7	·3	3·0	3·4	3·2	6·6	1·3	1·1	2·3	1·7	·5	2·2	1·9	·7	2.6
1919-20	3·2	·4	3·6	5·6	3·3	8·9	2·8	1·1	3·9	2·5	·5	3·0	3·7	1·5	5·2
1920-21	2·5	·4	2·9	3·7	3·3	7·0	1·9	1·1	3·0	2·0	·6	2·6	2·3	1·1	3.4
1921-22	3·1	·4	3·5	4·9	2·4	7·3	1·8	1·8	3·6	2·4	·6	3·0	4·3	1·5	5·8
Average 1914-22 ..	..	..	**3·4**	..	..	**7·7**	..	..	**3·4**	..	..	**2·8**	..	..	**4·8**
General Average 1900-22	..	..	**3·3**	..	..	**7·2**	..	..	**3·5**	..	..	**2·5**	..	..	**4·8**

Jowar is the third most important crop in India. It is the chief food of a large section of the population in the Bombay-Deccan, the Central Provinces, the Hyderabad State, and some districts of Madras. Jowar stems are also the chief item of the food of cattle. The area under cultivation is about 35 million acres, a little more than that of wheat. But the yield is about a million and a half tons less, being 7.2 million tons on a general average.

Bajra occupies half as much area as Jowar, and Barley about a quarter as much; but the yield from these two grains is about the same (3.4 million tons). Bajra thrives best on the soils of the Konkan in the Bombay Presidency, but it does well also in Madras, the Punjab, Sind and Rajputana States. Barley is best grown in the United Provinces, the Punjab, and Bihar and Orissa.

As regards Maize and Gram, they are also as important as the above two. The area under cultivation is about 8 millions and 18 m. acres, and the general average yield about 2.5 and 4.8 million tons. As the soil suited to barley is also suited to them, they are principally grown in the same provinces, viz., the United Provinces, the Punjab, and Bihar and Orissa.

In respect of the above five crops, the **Estimates of the Area and Yield** do not give any figures for years prior to 1911-12. We have, therefore, worked them out ourselves on the same method as we work out the error figures. Even for years subsequent to 1911-2 the figures of the **Estimates** are defective, since they do not include (except in extremely few cases) the figures for the Native States. These are all allowed for in the error column [1]. This point is most important to remember in the case of jowar, which has over 14 million acres under cultivation in the Native States, chiefly in Hyderabad!

Ragi.—The figures for the outturn of this crop are not to be obtained anywhere. We have, therefore, taken the average acreage under cultivation from the volumes of the **Agricultural Statistics**, (taking care to add for Hyderabad,) viz., 4.3 million acres in British India, and 2.7 for the Native States, i.e., 7 m. acres in all. This we have multiplied by the unit yield, which is taken to be 1200 lbs. per acre.[2] The average yield is thus obtained to be 3.8 m. tons.

Other Food Grains and Pulses [3]

As no figures are or can be available for this miscellaneous item we have taken 700 lbs. as the average yield per acre [4], (from a rough calculation made from figures of unit yields given in Appendix A to the **Agricultural Statistics of India** Vol. I, 1920-1, pp. 346-361, as regards peas and beans, arhar, etc.); and multiplied this by the average area under cultivation, (viz. 29 million acres in British India, and 4 m. in the Native States, in all 33 m.). This gives us 10.5 million tons as the general average. For the other two periods we get 10.3 and 10.6 million tons, and for 1921-2, 10.5 million tons.

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[1] It is needless to add in all these cases all the tables which show how the "error" figures are arrived at.

[2] Mr. Dubey gives 1147 lbs. in his article on the Food Problem in the **Indian Journal of Economics**, Vol. III. p. 107. Mollison in his **Text-Book of Indian Agriculture** Vol. III. p. 49, gives a higher figure: between 1400 and 1500 lbs. We take only 1200 lbs.

[3] For a list of these, *Vide* **Agricultural Statistics of India 1920-1**, Vol. 1, p. 128.

[4] Mr. Dubey takes 500 lbs. (*Op. cit.* p. 84) for 1911-2, following Mookerji's table of the unit yields of minor crops (**Hand-book of Indian Agriculture**). But Mr. Dubey takes only an unweighted average of all the items giving no prominence to the more important peas and beans and pulses, of which the outturn is greater. Moreover, Mr. Mookerji's own figures wherever they are comparable with those of the **Agricultural Statistics**, (i.e. of arhar dal, peas, mussuri, etc.) are far below those given in the latter publication (pp. 347-8, 353, etc.). It is evident that Mr. Mookerji has erred on the side of deficiency. Hence we are not wrong in sticking to our own figure of 700 lbs. The evidence of Mollison (scattered between pp. 51 to 78 of *op. cit.*) would give us a figure even higher than 700 lbs.

8. **Raw Sugar.**—In the matter of sugar the **Estimates of the Area and Yield** give figures for the production of raw sugar **(Gur)**, rather than of sugar cane itself. We have consequently made use of them here.

Yield of Raw Sugar

Year.	Official Figures.	Plus Error.	Final Figures.
	(Million Tons.)		
1900-01	2·2	·3	2·5
1901-02	2·0	·2	2·2
1902-03	1·9	·2	2·1
1903-04	1·8	·2	2·0
1904-05	2·1	·3	2·4
1905-06	1·7	·3	2·0
1906-07	2·2	·3	2·5
1907-08	2·0	·2	2·2
1908-09	1·8	·2	2·0
1909-10	2·1	·3	2·4
1910-11	2·3	·4	2·7
1911-12	2·4	·2	2·6
1912-13	2·5	·2	2·7
1913-14	2·2	·1	2·3
Average 1900-14	**2·1**	..	**2·3**
1914-15	2·4	·1	2·5
1915-16	2·6	·2	2·8
1916-17	2·7	·1	2·8
1917-18	3·4	·1	3·5
1918-19	2·4	·2	2·6
1919-20	3·0	·2	3·2
1920-21	2·5	·2	2·7
1921-22	2·5	·3	2·8
Average 1914-22	**2·7**	..	**2·9**
General Average 1900-22	**2·3**	..	**2·5**

The area under cultivation is about 2·5 million acres, and the general average yield is also about 2·5 million tons of raw sugar, which makes it easy for us to remember the yield per acre.[1] But it is a matter of regret that the yield is very much lower than in any other sugar-cane producing country. "India", says Mr. C. W. E. Cotton, "was probably the original home of sugar-cane, and the area under sugar is larger than in any other country in the world".[2] But the yield being poor, and the demand great, we have annually to import large quantities of sugar from abroad (about 26·7 crores worth in 1921-22).[3] (It is true we also export some **Gur** to Ceylon, Straits Settlements and Fiji, but the amount is quite insignificant; about Rs. 16 lakhs worth in pre-war years, and about 24 lakhs worth in 1921-22.)

More than half the area under cultivation is in the United Provinces; while the Punjab, Bihar and Orissa, Madras and Bombay almost make up the remaining half.

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[1] **The Imperial Gazetteer,** (Vol. III) says at p. 41: "In Peninsular India where sugarcane is extensively grown under well-irrigation and is very highly manured, the product is much higher, 6,000 to 7,000 lbs. of gur per acre being an ordinary outturn."

Sir George Watt, **Commercial Products of India**, p. 940, gives figures of yield of sugar per acre in other countries: in Japan 1.1 tons, in Queensland 1.6, in Egypt 2.2, in Java 3·6; and in the Sandwich Islands 8. The Indian Sugar Committee, **Report, Sug. Com.** p. 5 and App. II, gives 1.9 tons for Cuba, 4.1 for Java, 4.6 for Hawaii, and 2.1 for Australia.

[2] **Handbook of Commercial Information for India**, p. 37.

[3] **Review of the Trade of India, 1921-22,** pp. 46 & 48. On an average about 14 crores annually.

Much of the gur is converted into refined sugar. But refined sugar is also produced directly. In the year 1921-2, the 29 modern factories then working turned out 73,000 tons of refined sugar. "India with a cane area of 2¾ million acres has only 22 factories working entirely or mainly on cane, as against 186 in Java with a cane area of about 400,000 acres."[1] The production by indigenous processes is estimated to be 50,000 tons.[2] This gives us 123,000 tons of refined sugar, which quantity, though an improvement over preceding years, is totally incommensurate with the large demands of India.[3] The enhancement of the import duty from 15 to 25 per cent. will no doubt give an impetus to the home production. At the same time very much attention is being given to the improvement and extension of sugar-cane cultivation by the Agricultural Department, which has had special sugar-cane stations at Coimbatore, Pusa and other places. Increasing attention is also being given to it by our industrialists. But the real problem is to have gur-making and white sugar industry alongside of each other within the cane-growing districts. Otherwise, any increment in yield might only cause a reduction of area.

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[1] Indian Sugar Committee's **Report** 1920, p. 246.

[2] **Review of Agricultural Operations in India**, 1921-22, p. 11.

[3] "Sugar is the only agricultural product in India in which the balance of trade is so decidedly against her. Considering the area under the crop she should be atleast self-supporting." And there is now enough evidence that with proper manuring and with the selected varieties, it would be quite possible to meet the whole of India's demand for sugar on the present area. (**Review of Agricultural Operations in India** in 1921-2, p. 11.)

9. **Oilseeds.**—The following table gives the estimated yields of the various oilseeds. We draw attention to the footnotes which explain how the errors are calculated, at any rate, for 1921-22.

(**A = Official Figures. B = Error. C = Final Figures.**)
(FIGURES ARE IN THOUSAND TONS, *i. e.*, 000 omitted.)

YEAR.	LINSEED.			SESAMUM.			RAPE & MUSTARD.			OTHER OILSEEDS AND GROUNDNUT.	
	A	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**	**C**	
1900-01	326	24	350	447	220	667	1022	110	1132	1140	
1901-02	351	24	375	356	200	556	955	100	1055	1320	
1902-03	481	26	507	573	230	803	1037	110	1147	1350	
1903-04	571	27	598	609	240	849	1165	115	1280	1380	
1904-05	347	24	371	335	190	425	876	85	961	1350	
1905-06	353	26	379	389	200	589	961	90	1051	1200	
1906-07	425	28	453	441	220	661	1053	95	1148	1410	
1907-08	163	26	189	285	180	465	688	60	748	1440	
1908-09	297	27	324	464	220	684	987	75	1052	1620	
1909-10	427	28	455	560	230	790	1270	95	1361	1530	
1910-11	571	39	610	511	220	731	1250	95	1345	1620	
1911-12	644	60	704	397	200	597	1325	96	1421	1800	
1912-13	542	57	599	474	230	704	1241	116	1357	1650	
1913-14	386	38	424	403	230	633	1088	95	1183	1620	
Average 1900-14	..	..	**452**	..	..	**654**	..	..	**1160**	..	**1460**
										Ground-nut	Other Oil Seeds.
1914-15	397	32	429	551	220	777	1219	160	1379	997	640
1915-16	476	44	520	482	200	682	1093	114	1206	1108	660
1916-17	526	50	576	513	230	743	1193	115	1308	1246	630
1917-18	515	80	595	382	180	563	1155	138	1293	1106	600
1918-19	235	24	259	278	180	458	768	72	840	676	520
1919-20	419	32	451	449	230	679	1153	118	1271	877	640
1920-21	270	26	296	382	188	570	859	75	934	1072	720
1921-22	434	42	476	515	240	755	1146	116	1262	970	820
Average 1914-22	..		**450**	..	..	**651**	..		**1186**	**1008**	**652**
General Average 1900-22	..		**451**	..	..	**653**	..		**1170**	**1533**	

NOTES:—Calculation of the Error figures:—[References are to **Estimates of Area & Yield** 1921-22].

Linseed:—1921-22: British India, 3000 tons, (*vide.* **Intro. Note,** p. 3.) Native States: Total Area, 466,000 acres: from this deduct 193,000 acres for states already included in the **Estimates,** and therefore in col. **A** above. Remain 270,000 acres; which at 1/7 ton per acre (p. 10), the normal unit yield, will give us 39,000 tons. ∴ Total error = 39+3 = 42,000 tons.

Sesamum:—1921-22: For British India, 134,000 tons. (**Intro. Note** p. 4). Native States: Total area: 1.3 million acres; deduct 700,000 acres for states already included in the **Estimates;** remain 600,000 acres, which at 1/10 ton per acre (p. 10) gives 60,000 tons. Next add for the Feudatory States of Bihar (450,000 acres, [footnote(k), p. 19] @ 1/10 ton). 45,000 tons. (**Estimates** give 50,000; but we go by area figures as given in **Agr. Stat.** Vol. II, 1920-1. p. 88.) ∴ Total Error = 134+60+45 = 240,000 tons.

Rape & Mustard:—1921-2: Deficiency for British India, 16,000 tons. (**Intro. Note,** p. 4). Native States: total area: 350,000 acres; deduct for states already included, 50,000 acres; add for Feudatory states of Bihar, 200,000 acres; (**Agr. Stat.** II, 1920-21, p. 88). This gives 500,000 acres, which at 1/5 ton per acre (p. 10), will give us 100,000 tons. ∴ Total error = 16+100 = 116,000 tons.

Other oilseeds: calculations explained in the text, on the next page.

Groundnut: A slight addition of 50,000 tons is made to official figures for reasons analogous to those in the case of the other seeds.

From the above table we see that the highest outturns are of rape and mustard seed, and of groundnut, but linseed is also a very important crop, and ranks first among the exports. It is also very valuable.

As for groundnut, as the figures prior to 1914-5 were highly defective, we have counted that crop in "other oilseeds" for those years. Castor and cocoanut have their areas separately given for the last two years; for our purposes they are included under other oilseeds As for the "other oilseeds," the yield is estimated from figures of the total area under cultivation in British India and the Native States [1] The area prior to 1914-5 includes also that under groundnut, which occupies about half the acreage in the British Provinces Therefore, although we have adopted a unit yield of .2 ton per acre [2] for 1914-5 and the subsequent years, we have taken ·3 ton per acre as the unit for the earlier years, so as to allow for the fact that the unit yield of groundnut is much higher (4 ton per acre)

Oilseeds are very important crops in India, and in all they occupy about 16 million acres or 7 per cent. of the total cultivated area. "India is one of the largest of the world's sources of supply of oilseeds. The output of raw products has been recently far short of the world's demands, and the prevailing high prices are acting as an incentive to increased production of various kinds of oilseeds " [3]

Including cotton seed and poppyseed, our total exports of oilseeds amounted in 1921-2 to 735,000 tons (valued at Rs. 17.4 crores), as against an export of double that amount, viz , 1,453,000 tons, (valued at Rs 24.3 crores), on an average in the pre-war years. [4] To this must be added 113,000 tons of oil-cake (valued at Rs. 1.3 crores) exported in 1921-2, as against 140,000 tons (valued at Rs. 1 crore) in pre-war years. [5] The figures show an increased consumption of oilseeds within the country

The production of oilseeds is spread over all the provinces; but linseed predominates in the United Provinces, the Central Provinces, and Bihar; rape and mustard in the United Provinces, the Punjab, Bengal and Bihar; sesamum in the United Provinces, Bombay, the Central Provinces, Madras and Hyderabad; groundnut in Madras; castor in Hyderabad; and cocoanut in Madras, Burma and Bombay.

In the above calculation of other oilseeds we have not included **cottonseed**, in the production of which, as Mr. C. W. E. Cotton says [6], India stands second only to the United States among the cottonseed producing countries. The demand for this seed by foreign countries, and especially the United Kingdom, has grown up surprisingly in this century, reaching nearly 300,000 tons in 1910-11. During the war there was a set-back, but the exports are now again reviving. However, it is significant of India's consumption of oils and oil materials that even the large exports represent only about 15 per cent. of the amount available. Mr. Cotton gives a rough estimate of India's production at 2 million tons. Nearly 200,000 tons are required for seeds, and a like amount as food for milch-cows in the Punjab. In a year of scarcity very little cotton seed is exported, a large amount being hoarded as winter feed for cattle. It is not possible to arrive at precise estimates of the production of cottonseed; but taking one year with another, and from what Mr. Cotton and Sir George Watt [1] says about it, we think it reasonable to treat the average exports of the period to be only 10 per cent. of the quantity available. But during the war years, when exports fell off considerably, they could have been hardly 5 per cent. of the total production. The exports of cottonseed are as follows:

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[1] **Agricultural Statistics of India**, Vol. I. and II.

[2] This ·2 ton is obtained by reviewing the unit yields of the other oilseeds as given in **Estimates of Area and Yield** 1921-2, p. 19.

[3] **Review of Agricultural Operations in India in 1919-20**, p. 30.

[4] **Review of the Trade of India, 1921-2**. p. 47.

[5] *Ibid* p. 48.

[6] **Handbook of Commercial Information for India**, p. 176.

Average for the pre-war period	230,000 Tons
" " War and post-war period	100,000 "
Whole period average	180,000 "
1921-2	92,000 "

Owing to the uncertainty as to the percentage of exports to total production, we think it preferable to accept Mr. Cotton's figure of 2 million tons as the average production for all our periods.

10. **FIBRES.**—As for **cotton** and **jute**, the question arises whether we should take for our purposes the figures of the "total yield" given in the **Estimates of Area and yield,** or the figures of the "Net exports and home consumption" (also given in the issues of that publication). We are strongly in favour of taking the latter series of figures, which are on the whole somewhat higher than the former. The reason is that the figures of the total yield are after all only **estimates,** and they do not show the real production of the country. The question of the accuracy of the jute forecasts has been engaging attention for some time past, and has recently been under discussion with the Government of Bengal. On the other hand, for a **single** year, the "net exports and home consumption" cannot be an accurate index to the crop of that year, because we have to take into account the carry-over from the previous year and the balance at the close of the year. Nevertheless, **taking a series of years,** this objection must disappear; and hence we shall be more accurate if we take the averages of the net exports and home consumption than if we take those of the total yield. The Reports of the Bombay Millowners' Association always regard the net exports and home consumption as the "approximate crop," which they then compare with the estimates of the forecasts [2]. The Secretary of the Indian Jute Mills Association wrote to us advising, that "the actual figures of export and consumption are likely to be more accurate indices" of the average jute crop for a series of years.

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[1] *Op. Cit.* p. 612.

[2] They follow the figures of the Indian Trade Journal.

The following table gives the export and consumption of raw cotton and raw jute, and also, for purposes of comparison, the estimated total yield. In the case of cotton the exports are "net", i.e. after deducting the imports. In the case of jute the exports are **not** "net"; although as a matter of fact they should have deducted the imports from Nepal. But these imports are small in amount, and will not materially disturb our figures.[1]

Table showing the Net Exports and Consumption of Raw Cotton and Raw Jute, along with their estimated Yields :—

Year.	Raw Cotton.		Raw Jute.	
	Estimated Yield.	Net Exports and home consumption	Estimated Yield.	Exports and home consumption.
	(Million Bales of 400 lbs. each)			
1900-01	2·9	3·1	6·5	..
1901-02	2·7	3·5	7·4	..
1902-03	3·3	4·0	6·5	..
1903-04	3·1	3·7	7·2	..
1904-05	3·7	3·9	7·4	..
1905-06	3·4	4·1	8·1	7·1
1906-07	4·9	4·8	9·2	8·4
1907-08	3·1	3·7	9·8	8·8
1908-09	3·6	4·2	6·3	9·1
1909-10	4·7	4·9	7·2	8·1
1910-11	3·8	4·3	7·9	9·0
1911-12	3·2	4·0	8·2	10·2
1912-13	4·6	4·4	9·8	9·3
1913-14	5·0	5·9	8·8	8·4
Average 1900-14	**3·7**	**4·2**	**7·9**	**8·7**
1914-15	5·2	4·8	10·4	9·4
1915-16	3·7	5·1	7·3	9·0
1916-17	4·5	4·9	8·3	7·7
1917-18	4·0	4·4	8·8	7·8
1918-19	3·9	3·9	6·9	9·1
1919-20	5·8	5·3	8·4	8·4
1920-21	3·6	4·9*	5·9	7·8
1921-22	4·4	5·9*	4·0	..
Average 1914-22	**4·4**	**4·9**	**7·5**	**8·5**
General average 1900-22	**4·0**	**4·5**	**7·7**	**8·6**

* These figures are obtained from the **Report of the Bombay Mill Owners' Association** for 1921 and 1922; others from the several issues of the **Area and Yield of the Principal Crops in India.**

NOTES:—(1) Of cotton, the exports as well the mill consumption are for the year ending August; of Jute, for the year ending June. The "estimated yield" of jute is for the calendar year: that for 1900 being given in 1900-01, that for 1921 being given in 1921-22, and so on.

(2) The 3rd and 5th columns include exports, mill consumption, and extra-factory consumption; but in the case of cotton alone are the imports deducted.

(3) The mill consumption of cotton is estimated from 1916-17 on the basis of returns furnished by the Bombay Mill Owners' Association; prior to 1916-17 the estimates were based on the returns of yarn produced by mills.

(4) As regards the extra-factory consumption of cotton, no reliable information is available. In 1911 it was settled in consultation with the Bombay Cotton Trades Association to adopt the conventional estimate of 450,000 bales, which is included in the figure for each year upto 1913-14. The consumption was estimated for 1914-15 at one million bales, and thereafter at 750,000 bales.

(5) As regards the mill and extra-factory consumption of jute, they are taken from the trade estimates, the latter item being 500,000 bales for each year.

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[1] *Vide*, footnote to table 9 of the **Estimates of Area and Yield 1921-2,** p. 17.

From the above table we see that the general average yield of cotton is about 4½ million bales of 400 lbs. each, and that of jute about 8½ million bales. In view of the limitations we have indicated above, it is difficult to point out to any single year as having given the best or the worst yield; but 1919-20 may be taken to be a good year for cotton, and 1914-5 for jute.

What figures of the yield of cotton and jute shall we adopt for the purposes of our estimate of wealth in the year 1921-2? The year's figures of exports and home consumption are higher than the estimated yields, which show a large amount of "carry over" from the preceding year. We have said above that the former sets of figures are very good for taking averages for a series of years; they are of no use for a single individual year. Consequently we are constrained, as regards 1921-2, to take the **estimated yields,** and **not** the net exports and consumption. Now it so happens, unfortunately, that, owing to accumulated stocks, to the falling off of demand from Russia, Central Europe, Rumania and South America, to the low prices obtained from jute in the previous year, and to the high price of rice, cultivators sowed a very much smaller area with jute in 1921 than ordinarily, giving the balance to rice; with the result that the yield is **by far the worst** on record ever since statistics have been compiled! There were only 4.0 million bales produced in 1921, while the figure for the next year is almost as bad (4.2 m.), although the normal yield is well over double that amount. Even the mills worked only 4 days a week.[1]

Such as they are, however, we must adopt these figures, subject only to the foregoing explanation. Although in other respects we have had occasion to call 1921-2 a "fairly normal year", in the matter of jute it certainly was a most abnormal one.

The area under jute in 1921 was only 1.5 million acres, but the normal acreage is between 2.5 to 3 millions. As is well known, nearly the whole of this is in Bengal, while Bihar and Orissa, Assam, and Cooch Bihar finish the tale. Cotton, however, is more widely distributed in India. Bombay of course takes the lead, with the Central Provinces a close second;[2] but Hyderabad, Madras, the Punjab, the United Provinces, and the Central India States have fairly good acreages under cotton. There has been an appreciable increase of area under cultivation from about 17 million acres in the early years of the century to about 22 million acres at present.[3] This increase is reflected in the increase of yield. But more important than the increase of yield is the very large improvement in the quality which has been brought about by the introduction of the longer staple varieties, thanks to the ceaseless efforts of the Agricultural Department.[1] The Indian Cotton Committee of 1919, however[2], recommended a still greater expansion of the work of this Department.

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[1] *Vide* **Review of the Trade of India in 1921-22.** (Report) p. 18.
As long as jute remains, what it undoubtedly is at present, the cheapest material for packing, there is no doubt that our jute production and jute trade will reap much benefit by the revival in trade, and will soon return to their normal dimensions with the advent of normality in the general trade conditions.

[2] As a matter of fact in 1921-2, the Central Provinces were actually 3000 acres ahead. But if we add Baroda and Sind to Bombay, the latter's lead is still maintained.

[3] The total area in 1921-2 was 18.4 million acres.

Approximately half the cotton produced is consumed by Indian mills, and this consumption includes nearly 80 per cent. of the long staple cotton. There is also a large exportable surplus, mainly of short staple cotton.

About 2.7 million bales of raw jute are exported annually and there is a consumption of 5 million bales in India. A large part of the manufactures of jute is also exported. Figures supplied to us by the Indian Jute Mills Association show an export of 2.9 million bales, and a mill consumption of 4.6 million bales in 1922-3. To this must be added .5 million extra-factory consumption. This gives us 8 million bales exports and home consumption for the latest year 1922-3.

Other Fibres: Hemp and Flax

Of **flax** there is little or no production in India; the plant is grown simply for the sake of the linseed. But owing to the exit of Russia, which supplied 80 per cent. of the world's flax, India has every chance of profitably cultivating this fibre. At present no figures of the crop are available, though it is said a small amount is grown near Cawnpore.

Sann-hemp is also not extensively grown in India. The two chief localities where it thrives at present are the North-West Himalayas, and Sind; it is also grown in some parts of Madras and Hyderabad. Mr. C. W. E. Cotton estimates[3] the area under cultivation to be 785,000 acres in 1916-7 and the yield 4.6 million cwts. But the export figures of raw hemp are only 509 thousand cwts. in pre-war years, 561 thousand cwts. in war years, and 256,000 cwts. in 1921-2.[4] It would appear from the above that we must regard the total production to be about 8 times the average export figures. But it is unwise to generalise from a single year's figure; and, therefore, to be on the safe side, we ought to take six as our multiplier.

A rough estimate of production of sann hemp is as follows:—

Pre-war average:	3.0	million	cwts.
War average:	3.4	,,	,,
1919-20:	4.4	,,	,,
1920-21	2.4	,,	,,
1921-22:	1.5	,,	,,

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[1] *Vide* **Rev. of Agr. Oper. India, 1921-22,** pp. 16 to 32.

[2] See **Report** p. 161.

[3] **Handbook of Commercial Information for India,** p. 262.

[4] **Review of the Trade of India,** 1921-22. p. 48.

11. **Dyeing and Tanning materials.**—The marginal table gives the yield of indigo dye, with allowances for Native States, and for other tracts in British India itself. The yield is estimated after deducting for seed to the extent of 10% of the area sown in the U. P., the Punjab, Bombay and Madras; no deduction is made in Bihar as the seeds for that province come from outside. The indigo industry has greatly suffered owing to the introduction of synthetic dyes. The area under cultivation was 1 million acres in 1900-01. It sank to 350,000 in 1921-22; and has seen even worse years. The decrease in the yield of dye is seen from the table.

As regards other materials, no reliable data are available except that of acreage under cultivation, which is at present nearly 1½ times that under indigo. We believe a rough idea of the total yield or production may be obtained if we take it to be three times the exports. On that basis are calculated the following rough figures for the last three years [1]. Myrabolans, which will be included under Forests, are omitted here. So also, barks for tanning and lac dye (which is here included under "others") ought properly to be considered under Forests.

Yield of Indigo dye

Year.	Official Figures.	Plus Error.	Final Figures.
	(Thousand Cwts.)		
1900-01	148	8	156
1901-02	112	8	120
1902-03	79	8	87
1903-04	102	8	110
1904-05	59	8	67
1905-06	48	7	55
1906-07	65	7	72
1907-08	52	7	57
1908-09	38	7	45
1909-10	39	6	45
1910-11	46	7	53
1911-12	47	6	53
1912-13	39	7	46
1913-14	26	6	32
Average 1900-14	**64**		**71**
1914-15	25	5	30
1915-16	55	5	60
1916-17	95	6	101
1917-18	127	7	134
1918-19	48	4	52
1919-20	43	6	49
1920-21	43	5	48
1921-22	60	8	68
Average 1914-22	**62**		**68**
General Average 1900-22	**63**		**70**

Estimated yield of some Dyeing and Tanning Materials:—

	1919-20 [1]	1920-21 [1]	1921-22 [1]
		(Thousand Cwts.)	
Cutch and Gambier..	166	120	190
Safflower	14	10	4
Turmeric	201	166	144
Others (including Lac dye.)	56	42	54

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[1] Figures of exports, given at pp. 521-5 of the **Sea-Borne Trade of British India** for 1922, are multiplied by three. The figure **three** is chosen merely on the analogy of Indigo, the yield of which as estimated above is about **three** times the quantity **exported**. Neither Mr. Cotton nor Sir George Watt helps us here; but as they also do not say anything to the contrary, our assumption, based on the analogy of Indigo, may be allowed to pass.

12. **Drugs and Narcotics.—Opium.**—The total production of opium ins India in each year from 1900-01 it not obtainable. In the **Statistics of British India,** Vol. II (Financial), is given the quantity of Bengal opium produced (in Patna and Benares). To this we must add for the Malwa opium. As this is wholly produced in the Native States we can get some idea of the yield if we multiply the area under cultivation by the unit yield. What unit shall we adopt ? Sir George Watt [2] himself is in favour of 12 to 14 lbs. per acre; though 18 lbs., he says, is more likely to be the yield in good seasons; but he also quotes Mr. Johnson of Patna, who favours a very high figure (48 lbs.). This figure, however, appears too high. Mr. Rushbrook Williams [3] gives 12 lbs. per acre; and, indeed, a comparison of the opium production of British India, given in the Financial Statistics, with the acreage under opium, given in the Agricultural Statistics, confirms this figure of 12 lbs. In the adjoining table, the figures of Malwa opium are obtained by multiplying the acreage under cultivation in the Native States[5] by 12. Those for Bengal opium are obtained (by converting maunds into lbs.), from the (Financial) **Statistics of British India.** [4] Smaller areas in the Punjab are omitted as being negligible.

Yield of Opium

Year.	British India.[4] (Bengal)	Native States.[5] (Malwa)	Total.
	(Million lbs.)		
1900-01	7·3	1·0	8·3
1901-02	7·3	·8	8·1
1902-03	10·0	·9	10·9
1903-04	9·0	1.2	10·2
1904-05	8·3	1·0	9·3
1905-06	8·7	·6	9·3
1906-07	7·4	1·1	8·5
1907-08	5·8	·9	6·7
1908-09	5·0	1·0	6·0
1909-10	5·4	·8	6·2
1910-11	3·6	1·1	4·7
1911-12	2·5	·6	3·1
1912-13	2·1	·5	2·6
1913-14	1·9	·2	2·1
Average 1900-14			**6·8**
1914-15	2·5	·3	2·6
1915-16	2·2	·2	2·4
1916-17	2·6	·4	3·0
1917-18	2·6	·4	3·0
1918-19	2·2	·2	2·4
1919-20	[illegible]	·5	2·3
1920-21	1·4	·6	2·0
1921 22	(1·4)	·6	2·0
Average 1914-22			**2·6**
General Average 1900-22			**5·3**

[The figure within brackets is calculated from area figures @ 12 lbs. per acre.]

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1 Issue of 1919-20, p. 156.

2 **Commercial Products of India,** pp. 852-3.

3 **The Indian Opium Trade,** p. 11.

4 Old series : Part IV B. of the **Statistics of British India** (Finance and Revenue), [for 1907-08 p. 42]. And new series, Vol. II of the same publication [for 1919-20, p. 156.]

5 Issues of the **Agricultural Statistics of India,** Vol. II.

Tea.—The marginal table gives the yield of tea as obtained from the issues of the **Estimates of Area and Yield,** and from Table No. 2 of the **Report on the production of Tea in India in 1920.** The official figures are generally correct. But there is some difficulty about Burma. Normally that province has about 2,000 acres under tea. In 1918-19, 1919-20 and again in 1921-22, we have over 50,000 acres given for Burma in the **Agricultural Statistics,** Vol. I. The **Estimates** and the **Report on the production of Tea** continue to give only about 2,000 acres. We have followed the latter publications and have made no proportionate increase in yield on account of that absurdly high acreage under tea in Burma in those years. We are however, unable to explain how that discrepancy in the **Agricultural Statistics** may have arisen.

Yield of Tea

Year.	Total Quantity.
	(Million lbs.)
1900	197
1901	191
1902	188
1903	209
1904	221
1905	221
1906	241
1907	244
1908	247
1909	258
1910	263
1911	268
1912	297
1913	307
Average 1900-13	**240**
1914	313
1915	372
1916	370
1917	371
1918	380
1919	377
1920	345
1921	274
Average 1914-21	**350**
General Average 1900-21.	**280**

The low yield in 1921 is due to markets being glutted with stocks of tea, which induced restricted cultivation. The prices had fallen to such an extent that in some cases cultivators were unable even to recoup their cost. By general agreement a short crop and fine plucking were resorted to, which greatly improved the quality. The prospects, therefore, are now much better.

Tea is cultivated mostly in Assam and Bengal. Assam has much more than half the total area under cultivation, which is about 650,000 acres. As for the Native States, only Travancore cultivates Tea; but the area given in the **Estimates** and the **Report on Tea** is less by about 15 to 20,000 acres than that given for the same State in the **Agricultural Statistics,** Vol. II. We have, however, good reasons for neglecting the latter publication so far as the area of tea is concerned, and to stick to the **Estimates** and the **Report.**

The average yield of tea in the last 8 years is 350 million lbs. per annum. Very considerable quantities are, however, exported by land and by sea, principally to the United Kingdom. The following table which we have compiled from tables No. 4, 9 and 10 of the **Report on the Production of Tea in 1920,** may be of interest :—

YEAR.	Production.	Imports. [1]	Exports. [2]	Re-exports.	Carry over from previous year.	Balance at end of year.	Home Consumption. [3]
	Figures are in Million lbs.						
1916—17	370·3	10·6	292·5	1·3	13·0	61·0	39
1917—18	371·2	15·0	360·6	1·1	61·0	43·5	42
1918—19	380·4	17·0	326·6	2·4	43·5	61·5	50
1919—20	377·0	13·1	362·0	1·6	61·5	38·3	30
1920—21	345·3	11·4	287·5	·4	38·3	63·2	44
Average 1916—21	**369**	**13·0**	**330**	**1·4**	**43·4**	**53·5**	**41**

Coffee:—The **Estimates** do not give the yield in years before 1919-20. The **Statistical Abstract** gives some figures upto 1909-10.[4] For the middle years there is a gap. But even such figures as we have are very much defective; and do not give complete figures even for such provinces and states as are included in, viz., Madras, Coorg, Mysore, Travancore, and Cochin. The reason is that plantations of less than 10 acres are not taken into account. Whereas the **Agricultural Statistics** Vols. I and II give a total area of 200,000 acres in 1920-1, the **Estimates** reckon the yield for only 125,000. Hence we have entirely rejected the set of official figures, and calculated the yield from the acreage figures at 180 lbs. per acre, this "180" being obtained by averaging the unit yields for the last three years as given in the **Estimates** 1921-22, p. 11. The **Imperial Gazetteer**[1] gives the average yield of coffee to be "from 300 to 400 lbs. of clean coffee per acre." But this figure is too high: The area and yield figures of the **Statistical Abstract** referred to above confirms rather the 180 lbs. per acre than the 300-400 of the Imperial Gazetteer. Sir George Watt[2] does not give any definite figure, but he says that in the larger and better-worked plantations the yield is from 2 to 3 cwt. in the European ones, and from ¼ to 1 cwt. in the native ones; the best ones may even give 7 to 10 cwts. Mr. C. W. E. Cotton gives[3] 400 lbs., but he probably quotes only from the **Gazetteer.**

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[1] From Ceylon, China, Java, the Shan States, etc.

[2] 83 per cent. to the United Kingdom.

[3] For any year, the eighth or last column is obtained by adding the second, third, and sixth, and deducting the fourth, fifth, and seventh, columns.

Vide, for instance, the 45th issue, p. 127, table 119.

Yield of Coffee.

Year.	Estimated Yield.	Official Figures.
	(Million lbs.)	
1900-01	43·9	21
1901-02	39·7	15
1902-03	39·6	30
1903-04	37·8	28
1904-05	37·8	29
1905-06	37·8	31
1906-07	36·7	17
1907-08	37·8	33
1908-09	36·9	27
1909-10	36·0	34
1910-11	36·0	..
1911-12	38·5	..
1912-13	38·7	..
1913-14	36·3	..
Average 1900-14	**38·1**	..
1914-15	39·2	..
1915-16	37·4	..
1916-17	36·0	..
1917-18	37·8	..
1918-19	38·3	..
1919-20	36·7	21
1920-21	36·9	22
1921-22	37·2	20
Average 1914-22	**37.4**	..
General average 1900-22	**37.9**	..

The following table conclusively proves how utterly defective the official figures of the yield of coffee are:—

Year.	Production.	Imports [4]	Exports [4]	Re-exports [4]	Our estimates of yield.
			(Million lbs.)		
1919-20	21	4·0	30	2·4	36·7
1920-21	22	3.8	26	3·2	36·9
1921-22	20	3.9	26	1·8	37·2
Average	25 m lbs.		30 m. lbs.		

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[1] **The Indian Empire**, Vol. III (Economic), p. 66.

[2] **Commercial Products of India**, p. 371.

[3] **Handbook of Commercial Information for India**, p. 246.

[4] **Sea-Borne Trade of British India for 1921-22**, pp. 124, 514 and 751.

Look at the official figures of production for the last three years. It is fair to assume that the carry over from 1918-9 may be off-set by the balance left for 1922-3. We should then have, on these official figures, the absurd result, that not only did we not consume any coffee at all, but on the contrary we sent out on an average 5 million lbs. more each year than we imported and produced! On the other hand, our estimates of production, added to imports, will give an average of 41 million lbs. On deducting the 30 m. lbs. sent out of the country, we shall get 11 million lbs. as the coffee consumption in India (as against the 41 million lbs. of tea) in each year on an average.

Tobacco.—The yield of cured tobacco leaf is not given in the **Estimates.** It is also difficult to obtain the average yield per acre. Mr. C. W. E. Cotton says [1], that the outturn varies according to the attention given to the crop, from 200 to as much as 3000 lbs. of cured leaf per acre. Mollison says [2], that the yield of some varieties is from 1000 to 1400 lbs., or from a good field, even 2400 lbs. or more, while the yield of some other varieties is 3000 lbs. or more. [3] We do not know which figure to take: but as the quality of Indian tobacco is generally not very good, greater yields cannot be expected. Even at the Agricultural Department's special tobacco farm at Burirhat in Bengal, trials with the improved varieties of the Sumatra leaf, using only carefully selected seeds, gave an outturn of only 1017 lbs. per acre. [4] The other varieties yielded even less. On the whole we think it better to adopt 800 lbs. as the unit yield. As there is much of guess in this, it is no use giving the yearly yields. The total area under cultivation is fairly constant for the last 22 years: about 1 million acres in British India (chiefly in Bengal, Madras Bombay and Bihar and Orissa), and about 200,000 acres in the Native States (chiefly in Hyderabad). At 800 lbs. per acre we get 960 million lbs., as the average total yield, for each of the four periods of our inquiry. Out of this we export about 25 million lbs. As the habit of cigar and tobacco smoking has invaded the social life of nearly all the peoples of India of every grade, and to a very considerable extent, our exports are but a 40th part of the production, as estimated by us. We also import about 6 million lbs. every year.

Other drugs and medicines:—The miscellaneous items included under this head cannot be ascertained, nor is it worth while to attempt to derive some idea from the issues of the **Sea-Borne Trade** and other publications, because they are so negligible.

13. **Fodder Crops.**—"In the greater part of India, crops grown purely for fodder are the exception and not the rule, the cultivator depending mainly

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[1] **Handbook of Commercial Information for India** p. 295.

[2] **Text-Book of Indian Agriculture** Vol. III. p. 219.

[3] Mr. Patil gives between 600 and 1600 lbs. **Crops of the Bombay Presidency. (Bombay Dept. of Agriculture, Bulletin No. 109 of 1921)** p. 37.

[4] **Report on the Progress of Agriculture in India for 1918-9,** p. 45.

on the straw of his grain crops for his cattle, supplemented by a certain amount of stubble grazing "[1] Yet there is a large area devoted purely to fodder crops, as will be seen below. The yield from this area is difficult to estimate, because different grasses and millets have quite different unit yields. The following figures are, however, gathered from the **Review of Agricultural Operations in India** 1920-1 (pp 27-8) :—

Yield of certain Fodder Crops in tons per acre :—

Guinea grass	37 6 Tons	—of green fodder on experimental ground but generally 10 to 12. Mollison[1] gives 20 to 35,000 lbs i e, between 9 and 16 tons We take 12
Rhodes „	20 4 „	
Saccoline	11 0 „	
Cumbu millet	4 5 „	
Lucerne	4 0 Tons	—Mollison[2] gives the best results on the Poona farm for two years (1893 and 1895) as 37 tons[3] and 14 tons respectively.
Sudan grass	4 0 „	

Lucerne is one of the most paying crops to grow, if it remains healthy

Taking the unit yields of the above at 12, 10, 10, 4, 8 and 4 tons per acre we get the average figure of unit yield as 8 tons per acre We therefore obtain the following estimate of total yields.—

Average for the	Area cultivated			Yield per acre	Total yield
	British India	Native States	Total		
	(Million acres)			Tons	Million Tons.
Pre-War period ..	4 5	1 5	6 0	8	48
War and Post-war period ..	7 7	1 8	9 5	8	76
Whole period 1900 22	5 9	1 6	7 5	8	60
Year 1921-22 ..	8 5	2 0	10 5	8	84

The rapid extension of arable cultivation and the more strict conserving of jungles is tending to restrict grazing areas, and hence the importance of cultivating green fodder crops. On the other hand, improvement in the yield of grain crops increases **pari passu** the amount of straw (as well as the grain) available for cattle.

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[1] **Review of the Agricultural Operations in India 1919-20**, p. 35.

[2] **Text-Book of Indian Agriculture** Vol. III, pp. 210-2.

[3] Sir George Watt (**Commercial Products of India** p. 779) quotes only the latter figure from Mollison.

14. **Fruits and Vegetables.**—In India as large masses of the people are not meat consumers, there is no doubt that very large quantities of vegetables and fruits must be consumed. But exactly how much is produced we are not in a position to say. The figures of inland trade cannot help us at all, because much of the production is either for home consumption or for the immediately proximate or local markets: and cannot enter into inland trade statistics. Of fruits, it is true, that certain varieties are peculiar to certain localities only, and their internal movements may furnish some indices of total production; but, unfortunately, no separate figures are given for fruits in the issues of the **Inland Trade**. The following figures of unit yield in the case of certain high-class garden crops are taken from the 3rd volume of Mollison's **Text Book of Indian Agriculture**.

Potatoes	12,000 to 15,000	lbs. per acre.
Sweet potatoes	13,000	,, ,,
Onions	35,000	,, ,
Surans	33,000	,, ,,
Ginger	12,000	,, ,,
Turmeric and Yams ..	15,000 and 7,500	,, ,,

This gives us an average of 18,000 lbs. per acre or 8 tons, but we cannot use this figure to multiply the acreage by, because it is absurd to treat the average yield of these root crops as if it were the average yield from all vegetables!

The average area under cultivation for our four periods is:—

Periods	British India.	Native States.	Total.
		(Million acres.)	
Pre-war period	4·7	·6	5·3
War and post-war period	5·5	·6	6·1
Whole period 1900-22 ..	5·0	·6	5·6
Year 1921-22	5·5	·6	6·1

15. **Condiments and Spices.**—In former times India was well-known for her spices which formed a most important item of her exports. But that trade has now declined. However, large quantities of black pepper, chillies, ginger, cardamoms, betelnuts, cinnamon, cloves, etc., are daily consumed in India. The **Agricultural Statistics** show an area of about 1.8 million acres under cultivation of spices and condiments. As we are unable to obtain unit yields of most of these things, we can give no estimate of total production. So we leave the matter here.

This finishes the quantitative data of our agricultural produce. In the next chapter we pass on to their valuation.

CHAPTER IV

Agricultural Wealth—Valuation

1. **Methods of Valuation: (Rupees and Food-units).**—As regards valuation of the quantities estimated in the preceding chapter, two remarks may be made.

The first is in connection with the methods of valuations. Two methods are possible. One is the qualitative valuation, i.e., the valuation in rupees; the other is the quantitative valuation, that is valuation in terms of vitamines or food units. In the latter case we shall have to determine the average food requirements of a normally constituted human being—the amount, that is to say, of proteins, fats, carbohydrates and salts, that are daily required to repair the wastage of tissues. In this connection we shall have to proceed on some such basis as that adopted by Mr. B. Seebohm Rowntree in his book, **The Human Needs of Labour.** Having ascertained our food unit as being equal to X calories including Y proteids, we shall then have to find out the amount of calories and proteids contained in unit quantities of the different foodstuffs; as for instance, from the table given in Kellock's **The Human Temple.** From these two things we may arrive at a valuation of the total crop production of the country in terms of our food-units. This method is intricate, as yet indefinite; and its results will be unintelligible to most lay readers. At any rate, this method can only be used in valuation of food crops [1].

2. **Fluctuating price levels.**—The method of valuing in rupees seems to be the only feasible one for all purposes. This, however, has difficulties of its own. That money itself has a value, and a fluctuating one, too, is a commonplace of economic text-books, and need not detain us here. We merely wanted to give a caution that, in comparing the total value of production of one year with that of another, especially when these years are apart from each other, we must not fail to take ncte of the fact that the purchasing power of money itself may have changed. Failure to note this very often gives rise to false notions about "increasing prosperity" or otherwise. The purchasing power of the rupee increased, for instance, from 80

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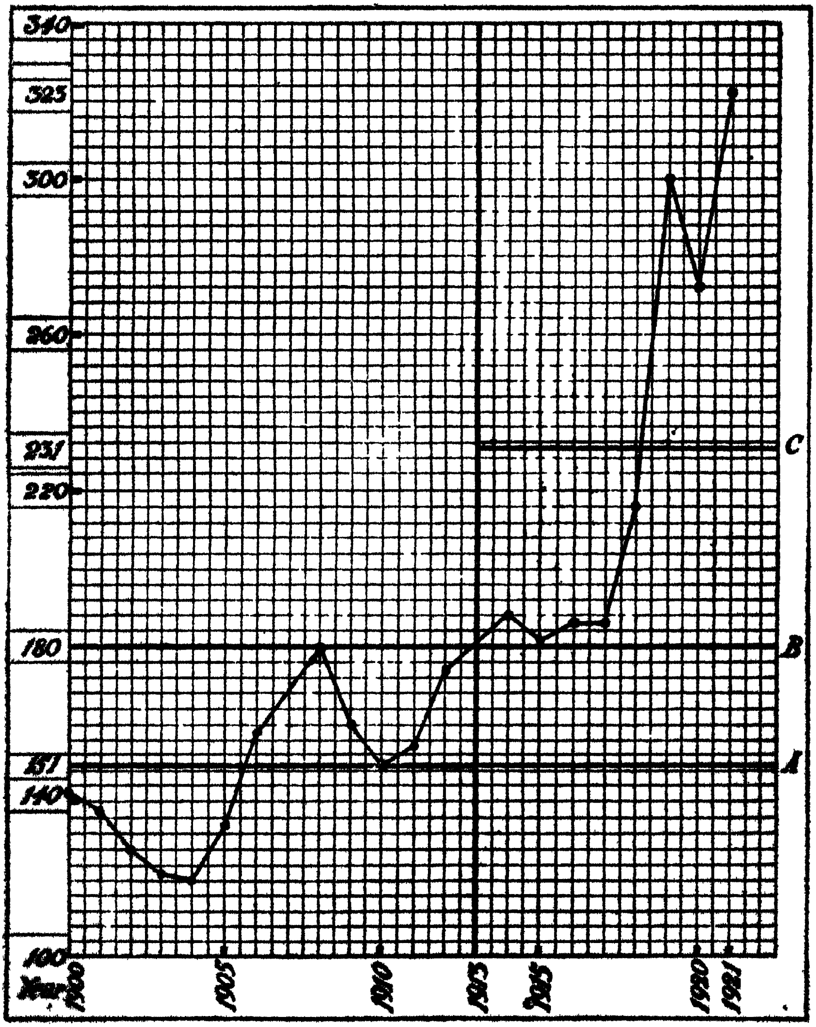
[1] See Book II, however.

Graph showing fluctuations in price-levels from 1900 to 1921, as indicated by the Weighted Index-Numbers of the Department of Statistics, India.

[*Weighted Index-Numbers* (*100 articles*) *equated to 100 for 1873*]



A.—Average price-level for the Pre-War period, (151).

B.—General average price-level for the whole period, 1900-21, (180).

C.—Average price-level for the War and Post-War period, 1914-21, (231).

in 1893 to 85 in 1899, according to the Atkinson index-numbers, (taking the average of the years 1868 to 1876 as 100)[1]. The weighted index number of prices (of 100 articles) in India, [see graph] taking 1873 to be 100, (i. e.,as base) was at 143 in 1900, but increased to 182 in 1913 and to 215 in 1918. The addenda we obtained from the Labour Office show that in 1919 the index number stood at the very high figure of 301, but there was a light decline to 273 the next year, and that, in 1921 which is the last year of our inquiry, it broke all records by rising to 323 which is the highest figure uptil now.

This means that the prices in 1921 were 126% higher than in 1900. Taking the average level for the pre-war period and that of the war and post-war period, we find prices in the latter to be 53% higher than in the former.

Weighted Index Numbers[2]

Year.	Index Number of 100 articles, equated to 100 for 1873.
1900	143
1901	139
1902	128
1903	122
1904	121
1905	135
1906	158
1907	167
1908	179
1909	160
1910	150
1911	155
1912	174
1913	182
Average 1900-13	**151**
1914	181
1915	182
1916	185
1917	186
1918	215
1919[3]	301
1920[3]	273
1921[3]	323
Average 1914-21	**231**
General Average 1900-21	**180**

It will be useful to show the inter-relations of the four periods we are studying :—

Periods.	Percentage rise above the average pre-war price-level.	Percentage rise (+)above or fall (−) below the average price-level for the whole period, 1900-21.
Pre-War	....	−21·6%
War and Post-War ..	53%	+28%
Whole (1900-21.) ..	19%	....
1921	114%	+79%

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1. See Professor Kammerer's **Modern Currency Reforms** p. 58.
2. Figures obtained from the **Index Numbers of Indian Prices, 1861 to 1918,** (Summary Table 1.)
3. The figures for these years were obtained from the Labour Office. The figure for **1922 is not worked out; but that for articles exported and imported, and the general** index number of 39 articles (unweighted) have been worked out.

These index numbers and the table will be useful in comparing the figures of the total produce and the produce per head, for the different periods, and thus in finding out a **real** rise in wealth. But these comparisons can at best give very rough results; because the weighted index number we have adopted here has in it no place for the imported goods which are now largely consumed in India, and it deals exclusively with the staple articles of production in India; while the value of the rupee depends on **both** these items. For this and other reasons [1], the index numbers we have adopted show no correspondence with the unweighted index numbers for 39 articles (28 exported and 11 imported), [2] especially in the years after the outbreak of the War. This caution is all the more needful for the latest years 1919-21, for which we notice that while the weighted index-numbers rise, the unweighted ones fall, and **vice versa**:—

	1919	1920	1921	1922
Unweighted index numbers for 39 articles ..	276 ↗	281 ↘	236	(232)
Weighted index numbers for 100 articles ..	301 ↘	273 ↗	323	(Not yet worked out.)

3. **Price Statistics available.**—The second remark we wanted to offer was in connection with price statistics. Our information is chiefly derived from the issues of the **Prices and Wages in India,** published by the Department of Statistics. We shall be concerned with the wholesale price ratios, especially as regards the raw-produce which forms the bulk of India's wealth. "Wholesale prices being more sensitive than retail prices," writes Mr. Datta [3] "reflect better industrial and trade conditions, while, from the stand-point of the

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[1] The weights given to rice (30) and wheat (5) have no correspondence with their relative production (which is only as 3½ to 1) or the relative value of their produce (about 4 to 1).

[2] Unweighted index numbers of 39 articles, equated to 100 for 1873:—

Average for the	Index Number.	Increase over Pre-War average.	Increase or Decrease from whole period average.
Pre-War period ..	121·5	....	—21·4 per cent.
War and Post-War period ..	212	74·5 per cent.	+37·2 per cent.
Whole period	154·5	27 per cent.	....
Year 1921	236	94 per cent.	+52·8 per cent.

[3] Inquiry into the Rise of Prices in India, Vol. I, p. 12.

cost of living, retail prices form the most effective basis for estimating the changes in the purchasing power of money." And as the primary object of any estimate of national wealth is the industrial position rather than the changes in the purchasing power of money, we shall adopt the wholesale price ratios.

The figures, however, as given in the **Prices and Wages** are always subject to the caveat that they will be only approximately correct and that punctilious exactitude cannot be vouched for. For those figures at best are based on the position on "the last day of a fortnight or the nearest market day."[1] There is the underlying supposition, therefore, that the prices on these days reflect fairly well the prices for the whole fortnight; and their averages, the average prices for the whole year.

There is also the supposition that certain places for which prices are recorded are typical of their whole district or province, and that their averages give fairly well the average annual price-ratios for the whole of India. This is no doubt a bold supposition, because we are by this rule of thumb quite unmindful of the total sales in a district, i.e., of the quantities of produce sold at the different prices: but the supposition is one which is warranted by necessity, and entirely indispensable for our (and similar) purposes.

4. **Price-ratios adopted for our calculation.**—Coming now to details: an average annual **All-India** price-ratio for any crop is unobtainable from any official publication.[2] We have therefore to work it out ourselves from table No. 1 of the **Prices and Wages**, which gives a summary of wholesale prices (per maund of various articles) in the different provinces and the chief ports. An average of all quotations given therein is the usual method adopted. But the unfortunate thing is that such a convenient table extends only as far back as 1913; that is to say, in the 30th and earlier issues we have no table corresponding to table No. I of the later issues. For the preceding years, there would be no recourse but to fall back on table No. 2 which gives the average annual wholesale prices at innumerable places! The rule of uniformity will be offended if we make use of two different methods in the same series of price figures. Hence we have had to use the table No. 2 exclusively. But as this would entail infinite labour in averaging and then reaveraging so many an item, we have thought it desirable to select a few typical places only and to work out their averages. These places are so selected (for any crop) as to represent all the parts of India, giving due importance especially to those provinces where that crop is chiefly grown. (It is found that the results for years after 1913 by this method are not different from those which will be obtained by averaging the items in summary table No. 1).

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[1] See Introductory Note to **Prices and Wages**, any issue.

[2] In Appendix A to **Prices and Wages** we have, indeed, a statement of the average annual prices of rice, wheat, cotton, and jute; but these prices are only of Calcutta, Karachi and Bombay respectively; and for particular varieties of these articles only.

PRICE-VALUATIONS

5. **FOOD CROPS, Rice and Wheat.**—The marginal figures for the average annual wholesale prices of rice for the whole of India, for each year, are worked out on the method above given, taking the quotations for the following places: Mandalay Rangoon, Goalpara (Assam), Dacca Calcutta, Muzaffarpur (Bihar), Benares, Ahmedabad, Jubbulpore, Madras and Mysore. The places are so chosen as to give due importance to the chief rice growing tracts. Unfortunately, no quotations are given for Bombay City ; and though these may be obtained for the latest year from the **Labour Gazette** and so on it is best not to sacrifice uniformity.

The average for 1900-13, the pre-war period, is Rs. 4 per maund; of the war and post-war period Rs. 5·9; of the whole period Rs. 4·7 and for 1921-2, Rs. 7·3.

Price o Rice

Year.	Rupees per maund.
1900	3·5
1901	3·6
1902	2·9
1903	3·2
1904	3·1
1905	3·6
1906	4·3
1907	4·8
1908	5·2
1909	4·5
1910	4·1
1911	4·2
1912	4·7
1913	5·0
Average 1900-1913	**4·0**
1914	5·2
1915	5·2
1916	5·0
1917	4·6
1918	5·0
1919	7·3
1920	7·7
1921	7.3
Average 1914-1921	**5·9**
General average 1900-1921	**4·7**

[Note: One Ton is roughly equal to 27 maunds.]

The valuation[1] of rice produce will thus be as follows:

Average for the	Yield. (Tons.)	Price per ton.	Value.
	Millions	Rs.	Crores of Rs.
Pre-war period	32.5	108.8	353.6
War & Post-war period ..	33.3	162.5	541.1
Whole period 1900-1921-2.	32.8	127.8	419.2
Year 1921-2.	35.1	198.5	696.7

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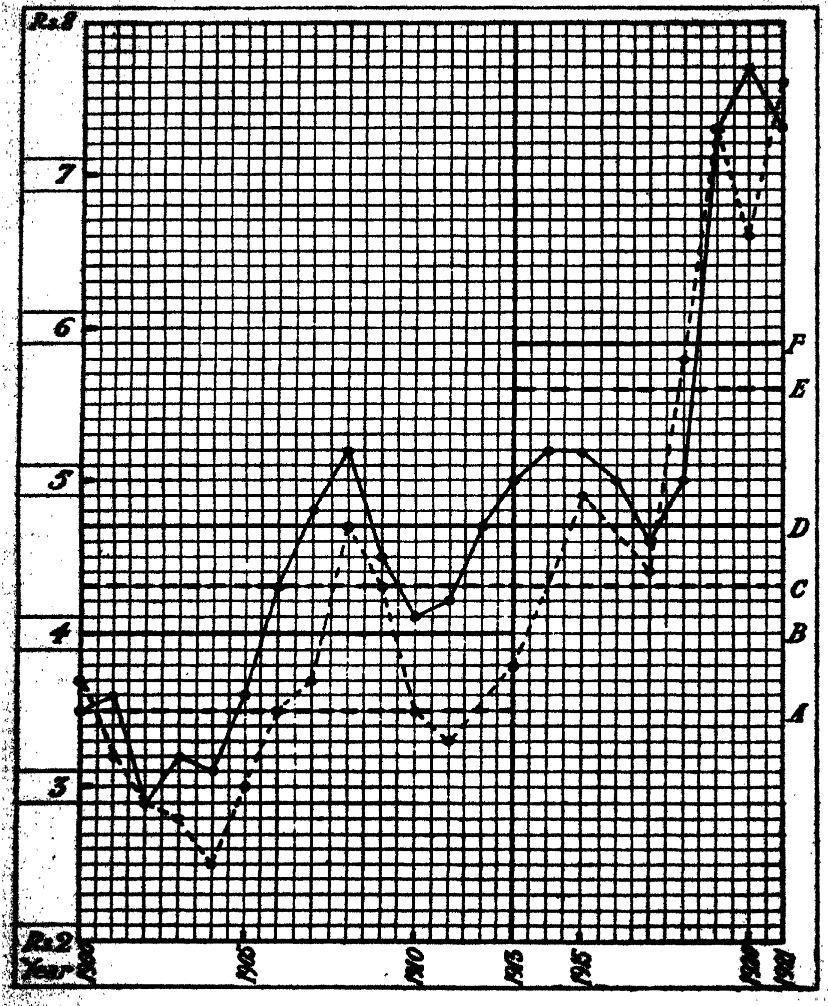
[1] The price ratios are for calendar years, while the yield figures are for financial years. The former are however applied to evaluate the latter in this way: prices for 1900 applied to yield for 1900-1; of 1913 to 1913-14, of 1921 to 1921-2 and so on.

Graph showing fluctuations in the All-India average wholesale prices of Rice and Wheat from 1900 to 1921, (with averages).

[Price (Rupees) per maund]



Rice——————

Wheat - - - - - - - -

A.—Average price of Wheat for the Pre-War period.

B.— Do. of Rice.

C.—General average price of Wheat for the whole period, 1900-21.

D.— Do. do. of Rice.

E.—Average price of Wheat for the War and Post-War period,

F.— Do. of Rice. 1914-21.

Wheat.—The marginal figures show the all-India average annual wholesale prices of wheat for each year from 1900. The method adopted in the case of rice applies **mutatis mutandis** in this case also. The quotations of the following places have been averaged.

Price of Wheat

Year	Rupees, per maund
1900	3·7
1901	3·2
1902	2·9
1903	2·8
1904	2·5
1905	3·0
1906	3·5
1907	3·7
1908	4·7
1909	4·3
1910	3·5
1911	3·3
1912	3·6
1913	3·8
Average 1900-13	**3·5**
1914	4·3
1915	4·9
1916	4·2
1917	4·4
1618	5·8
1919	7·3
1920	6·6
1921	7·6
Average 1914-21	**5·6**
General average 1900-21	**4·3**

Calcutta, Muzaffarpur, Benares, Agra, Lucknow, Lahore, Delhi, Rawalpindi, Karachi, Ahmedabad, Poona, and Nagpur. It will be seen that in the selection of these places—even as in the case of rice—we give due importance to those tracts where the crop is chiefly grown.

The Valuation of wheat produce will be:

Average for the	Yield. Tons.	Price per ton.	Value.
	(Millions.)	Rupees.	Crores of Rs.
Pre-War period ..	8·4	95.2	80
War & Post-war period	9·3	152·3	141·6
Whole period 1900-22	8·7	116·9	101·7
Year 1921-22	10·0	206·7	206.7

As rice and wheat are by far the most important food grains, and between them constitute more than half of India's total agricultural income, it will be interesting to note the fluctuations in their prices. [See Graph]. The fluctuations give a fairly good indication of the rise of prices in general. The lines of rice and wheat show almost identical movements, upwards and downwards, except for the last three years, and these lines again, (especially that of **wheat**), correspond with the line of index numbers shown in the first graph (p. 111 ante.)

The present graph shows that prices fell slightly from 1900 to 1904, then they rose considerably until the year 1908, when they were almost as high as in 1915. From 1908 to 1910-11 there is again a considerable downward tendency, but they never fell so low as in 1903-4. From 1911 they rose once more, reaching the highest point in 1915. In the early years of the war there is a tendency towards a slight fall in this graph, but the index-number shows a constancy. At any rate from 1917 the prices rose with a vengeance and reached their climax in 1919. With a little respite in 1920, they have once more re-asserted themselves in 1921. Such briefly is the story of price-movements from 1900 to 1921. The movements in this graph corroborates almost exactly those in the preceding; and so proves our statement that the prices of rice and wheat represent fairly accurately the general movement of prices.

6. **Food crops (Contd.)—Minor grains.**—Barley, Jowar, Bajra, Ragi, Maize, and Gram:—For these minor crops we need not quote the yearly price tables. It will suffice to summarise the results directly.

Valuation of Minor food grains:—

Average for the	Barley			Jowar		
	Yield. Million Tons.	Price per ton. Rs.	Value. Crores of Rs.	Yield. Million Tons	Price per ton. Rs.	Value. Crores of Rs.
Pre-war period ..	3·2	65·2	20·9	6·9	70·7	48·8
War & Post-war period ..	3·4	92·4	31.4	7.7	106·0	81·6
Whole period 1900-22 ..	3·3	76·1	25·1	7.2	84·3	60·7
Year 1921-22. ..	3·5	136·0	47.6	7·3	160·4	117·1
	Bajra			Ragi		
Pre-war period ..	3·6	68·0	24·5	3·3	70·7	23.3
War & post-war period ..	3·4	130·5	44·3	3·4	95·2	32·3
Whole period 1900-22 ..	3·5	89·7	31·4	3·3	78·8	26·0
Year 1921-22 ..	3·6	187·6	67·5	3·5	117·0	41·0
	Maize			Gram		
Pre-war period ..	2·4	68·0	16·3	4·7	78·8	37·0
War & post-war period ..	2·8	108.8	30·4	4·8	127·8	61·3
Whole period 1900-22 ..	2·5	81·6	20·4	4·8	95·2	45·7
Year 1921-2 ..	3·0	157·7	47·3	5·8	176·8	102.5

[One Ton=27 mounds, about]

NOTES:—

Barley:—The price figures are taken from table No. 2 of **Prices and Wages.** 37th issue, p. 10. The highest point reached was Rs. 5 per maund both in 1919 and in 1921.

Jowar:—Prices taken from the same source, p. 11. The highest point again was in 1919, viz., Rs. 6.2 per maund, as against Rs. 5.9 in 1921.

Bajra:—Same source p. 12. The year 1919 again shows the highest figure, viz., Rs. 7.1 per maund, as against Rs. 6.9 in 1921.

Ragi:—Same source p. 13. The highest figure is Rs. 5 per maund both in 1919 and in 1920, as against Rs. 4.3 in 1921.

Maize:—p. 13. Highest Rs. 5.8 in 1921, as against Rs. 5.1 in 1919.

Gram:—p. 14. Highest Rs. 6.5 per maund both in 1921 and in 1919.

Other Food Grains and Pulses

For the different grains and pulses included under this head,[1] no price figures are given, except for arhar dal (**Cajanus Indicus**). This however is a very costly commodity, and we cannot value the whole yield of other food grains and pulses at the price ratios given for arhar in the **Prices and Wages.**

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[1] For a list of these crops, *Vide* **Agricultural Statistics of India. 1920-1, Vol. I, p. 128.**

As it is fair to presume that a few of the commodities herein included are costlier than the minor food crops considered on the last page, while the rest are cheaper, we may adopt the plan of multiplying the total estimated yields for the different periods by price ratios which are 10 per cent. less than the averages of the price-ratios for Barley, Jowar, Bajra, Ragi, Maize and Gram.

The valuation will then be as follows:—

Average for the	Yield. Million Tons.	Price per ton.	Value. Crores.
		Rs.	Rs.
Pre-war period	10·3	63·1	65
War and post-war period	10·6	99	104·9
Whole period 1900 22	10·5	76	79·8
Year 1921-22	10·5	140	147

7. **Raw Sugar (gur).**—The prices of raw sugar or **gur** are also obtained on the same method as those of rice and wheat. In calculating the value of this produce we have to remember that some portion of it is used for manufacturing refined sugar, which has double the price of raw sugar. But this manufacture of refined sugar is for the most part direct from the canes themselves. We have estimated the production of refined sugar to be about 123,000 tons in 1921-2, which at Rs. 26 per maund [1] gives us Rs. 8.79 crores. This sum ought properly to be reckoned in in Part III.

For the present we shall confine ourselves to the valuation of raw sugar or **gur**.

The valuation of raw sugar (gur) is as follows:—

Average for the	Yield. Tons.	Price per ton.	Value.	Add for other sugars.
	Millions.	Rs.	Crores of Rs.	Crores of Rs.
Pre-war period	2·3	158	36·3	·2
War and Post-war period	2·9	237	68·7	·4
Whole period 1900-21-22	2·5	180	45·0	·3
Year 1921-2	2·8	340	95·2	·5

In the last column we have given the value of "other sugars" (i.e., Palmyra palm and date palm) for which figures of area only (a little less than 200,000 acres) are given in the **Agricultural Statistics of India.** They, however, count for very little, and we may add between .2 and .5 crores on their account.

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[1] Prices and Wages 37th issue, p. 6.

SUMMARY OF QUANTITY AND VALUE OF FOOD CROPS

Summary.—As we have finished all the food crops, it will be useful to summarise the results as under; because for one thing, on these figures depends the discussion on the important subject of the Indian food problem.

Crops.	Quantity. (Million Tons.)				Value. (Crores of Rupees.)			
	Pre-war period.	War & post-war period.	Average for whole period.	1921-22.	Pre-war period.	War & post-war period.	Average for whole period.	1921-22.
Rice	32·5	33·3	32·8	35·1	353·6	541·1	419·2	696·7
Wheat	8·4	9·3	8·7	10·0	80·0	141·6	101.7	206·7
Barley	3·2	3·4	3·3	3·5	20·9	31·4	25·1	47·6
Jowar	6·9	7·7	7·2	7·3	48·8	81·6	60·7	117·1
Bajra	3·6	3·4	3·5	3·6	24·5	44·3	31·4	67·5
Ragi	3·3	3·4	3·3	3·5	23·3	32·3	26.0	41·0
Maize	2·4	2·8	2·5	3·0	16·3	30·4	20·4	47·3
Gram	4·7	4·8	4·8	5·8	37·0	61·3	45·7	102·5
Other food grains and pulses.	10·3	10·6	10·5	10·5	65·0	104·9	79·8	147·0
Total food grains ..	75·3	78·7	76·6	82·3	669·4	1068·9	810·0	1473·4
Sugar	2·3	2·9	2·5	2·8	36·5	69·1	45·3	95·7
Total food crops ..	77·6	81·6	79·1	85.1	705·9	1138·0	855·3	1569·1

The problem whether the total production of food grains in India is or is not sufficient to meet with their total requirements is left over to Book II [1].

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[1] Those interested will find the problem also discussed by Mr. Daya Shankar Dubey, in two articles on **The Indian Food Problem** in the **Indian Journal of Economics** Vol. III, at p. 84 and 167.

8. **Price Valuation of Oilseeds.**—The valuation of Oilseeds is as follows:

Average for the	**Linseed.**			**Sesamum.**			**Rape and Mustard.**		
	Yield. Thousand Tons.	Price per Ton. Rs.	Value. Crores of Rs.	Yield. Thousand Tons.	Price per Ton. Rs.	Value. Crores of Rs.	Yield. Thousand Tons.	Price per Ton. Rs.	Value. Crores of Rs.
Pre-War period ..	452	158	7·1	654	163	10·6	1160	125	14·5
War & Post-war period	450	204	9·2	651	261	17·0	1186	190	22·5
Whole period 1900-22	451	174	7·8	653	198	12·9	1170	147	17·1
Year 1921-22	476	258	12·1	745	810	23·0	1262	228	28·7

Average for the	**Groundnut.**			**Other Oilseeds** (Excluding Cottonseed.)			**Total Oilseeds.** (Excluding cottonseed.)		**Cottonseed.**
	Yield. Thousand Tons.	Price per Ton. Rs.	Value. Crores of Rs.	Yield. Thousand Tons.	Price per Ton. Rs.	Value. Crores of Rs.	Yield. Thousand Tons.	Value. Crores of Rs.	Estimated value. Crores of Rs.
Pre-War period ..				1460	112	16·3	3726	48·5	7·0
War & Post-war period	1008	180	18·1	652	105	6·8	3947	73·6	9·0
Whole period 1900-22				1532	130	19·9	3806	57·7	8·0
Year 1921-22	970	212	20·5	820	126	10·3	4273	94·6	11·0

Note—For reasons stated in the previous Chapter, separate figures for groundnut are only given for years after 1914-5. For the Pre-war period and the whole period averages, we have included groundnut under "Other Oilseeds".

In the case of Linseed, Sesamum, and Rape and Mustard seed, no difficulty arises. But for groundnut and other oilseeds some explanation is necessary. The prices for groundnut are not given in the issues of **Prices and Wages.** We have therefore taken the average declared value per unit as given in the **Review of the Trade of India,** 1921-2, p. 69, so far as the year 1921-2 is concerned; while in order to obtain the war and post-war period average we have resorted to the other issues of the same publication. But to bring these figures—which are the declared values at the ports of exportation only—into line with the all-India, average, wholesale price figures that we give for other oilseeds, crops etc., we have reduced them by one-fifth.

For other oilseeds, "we have taken only 50 per cent. of the average of the price-ratios of linseed, sesamum, rape and mustard and groundnut, as the mean price-ratios of "other oilseeds" for the pre-war average and for the year 1921-2; while for the other two periods (where figures for groundnut are also included in the yield to the extent of nearly 66 per cent.), we have thought it necessary to take 75 per cent. of the average of the price-ratios of linseed, sesamum, and rape and mustard seed. The results have a certain amount of guess; but it is believed that they will not be far from the mark.

In the "other oilseeds" we have not included cottonseed, the production of which we have stated in Chapter III ante, cannot be determined precisely, but can be taken to be about 2 million tons. In evaluating this item there is also the difficulty of arriving at suitable price ratios. A large amount which is used for seed by the growers, and a much larger amount which is hoarded as winter feed for cattle, can at best be given only a hypothetical value. We should then be considerably overvaluing production if we were to multiply the 2 million tons that we have adopted as the production by the wholesale prices for cottonseed as given in **Prices and Wages**, or by the average declared value per unit on export as given in the issues of the **Review of the Trade of India.** We therefore propose to evaluate at wholesale prices only half the amount of the production estimated; which gives us:

For the pre-war period average	Rs. 7 crores
For the War and post-war average	,, 9 ,,
For the whole period average	,, 8 ,,
For the year 1921-2	,, 11 ,,

9. **Fibres.**—In connection with the valuation of fibres we may repeat a remark made before that we shall here value the whole produce, and deduct from the value of the manufactures the value of raw materials entering into them, thus avoiding double counting.

Cotton.—The method which we have adopted so long to determine price-ratios cannot be applied in the case of cotton. The average of miscellaneous unimportant places will cause us greatly to underestimate the price of cotton. For, be it remembered that **the** one place in India which should really and exclusively matter in the case of cotton—viz., Bombay City—is most conspicuous by its absence both from table No. 1 and from table No. 2 of the **Prices and Wages.** We shall here take Bombay prices only.

But how is an "average price" to be obtained for any year? It is well-known that there are over two dozen types of cotton in India, and that each type again has several varieties (superfine, fine, fully good, middle good, fully good fair). The prices of the different varieties are so different that all hope of obtaining an average variety must be abandoned. Secondly, even of one single variety, prices fluctuate so enormously during the year—the maximum price being sometimes more than twice the minimum—that we must also give up hope of obtaining a true average annual price. But some way must be found out of this perplexity. Three alternatives suggest themselves:

(1) **The Reports of the Bombay Mill Owners' Association** give monthly prices for Fine Oomravati and Fine Bengal ginned cotton. An average of the twelve months and of the two varieties (giving twice the weight to the former), ought to give a fairly representative price-ratio; especially as the Oomras represent about 45 per cent., and the Bengals about 25 per cent., of the total crop of each year. But this plan involves too much labour. Le jeu ne vaut pas la chandelle!

(2) The second idea is to adopt the prices of Broach Cotton. The Secretary of the East Indian Cotton Association advised that it is Broach prices [1] that are quoted in all commercial publications whenever Indian cotton prices are referred to. But it will be easily understood, that our point of view is different from that of the Commercial community. Secondly, Broach cotton is, next to Coompta, the first in India, and adopting Broach prices as the multipliers would be overestimating the value of the total cotton crop, especially as Broach cotton represents only about 5 per cent. of the total cotton crop in a year. There is, further, the technical difficulty, viz., that Broach prices, quoted in table No. 7 of the **Prices and Wages** (also in Appendix A), are those for January and July, and the average of the two would reflect the state of speculation in the market in those two months only; while to obtain a proper annual average regard must be had to prices all the year round, and also to total sales at the different prices! We may add here that Broach cotton is affected by speculation very much more than any other kind.

Price of Cotton. [2]

Year.	Broach cotton. Average of January and July prices (per Candy)	Average declared value on export. (per cwt.)
	Rs.	Rs.
1900	219	28.3
1901	214	25·3
1902	212	24·4
1903	207	30·7
1904	248	30·8
1905	216	28·8
1906	252	29·7
1907	248	30·0
1908	247	29·1
1909	242	35·1
1910	303	41·6
1911	342	40·2
1912	282	38·4
1913	309	38·6
Average 1900-13	**253**	**32·2**
1914	289	32·3
1915	205	28·0
1916	292	40·5
1917	461	58·3
1918	653	84·2
1919	635	68·5
1920	503	53·0
1921	323	50·3
Average 1914-21	**420**	**52·0**
General Average 1900-21	**314**	**39·4**

[*Note*: 1 Candy = 7 Cwts.]

(3) There is lastly the plan of adopting as the multiplier the average declared value per cwt. of cotton exported, as given in the several issues of the **Review of the Trade of India.** This appears to us to be the best method possible; for the figure is obtained by dividing the total quantity by the total value, as obtained from the **Annual Statements of the Sea-Borne Trade of British India.**

In the marginal table we give both the Broach prices and the average declared values, for the purposes of comparison. Remembering that one candy of cotton is equal to 7 cwts. we find that in 1921 Broach prices are **less** than the average declared value. This should not surprise us for reasons already stated; the figures here given are averages of January and July prices only, while as a matter of fact Broach prices rose considerably after July, reaching Rs. 580 in October 1921 (although that was not **the** highest point.)

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[1] " Fully Good " before 1918; " middle good " after 1918.

[2] Various issues of Prices and Wages (Table 7), and Review of the Trade of India (Table 49).

Adopting the average declared values on export as our multipliers, the valuation of cotton crop will be as follows:—

Average for the	Total crop. Million bales of 400 lbs. each.	Price per bale. Rs.	Value. Crores of Rs.
Pre-war period	4.2	115	48.3
War and Post-war period ..	4.8	186	89.3
Whole period 1900-21-2 ..	4.4	141	62.0
Year 1921-2	4.4	180	79.2

Price of Jute. [1]

Year.	Average annual price per maund.
	Rs.
1900	5·4
1901	5·0
1902	5·1
1903	5·3
1904	5·4
1905	6·6
1906	9·4
1907	8·7
1908	5·7
1909	5·7
1910	5·7
1911	7·4
1912	7·8
1913	8·1
Average 1900-13	**6·5**
1914	7·9
1915	6·6
1916	8·1
1917	7·7
1918	8·1
1919	11·8
1920	10·2
1921	12·9
Average 1914-21	**9·2**
General average 1900-21	**7·8**

Jute:- In the case of jute, we shall be justified in taking only the Calcutta prices, just as in the case of cotton we took the Bombay prices. In the marginal table, we have taken the average annual wholesale prices at Calcutta as given in the **Prices and Wages**, table No. 2.

The valuation of jute crop is as follows:-

Average for the	Yield million bales of 400 lbs.	Price per Bale Rs.	Value Crores of Rs.
Pre-War period	8·7	32·5	28·3
War & post-war period ..	8·5	46·0	39·1
Whole period 1900-22 ..	8·6	37·5	32·2
Year 1921-22	4·0	64·5	25·8

[*Note*: One bale of jute = 5 maunds.]

The fact that the value of jute crop is so very low in 1921-22 is due to the production being very low in that year. In Ch. III **ante**, we have explained why that was so, and also why we had to adopt the figure of the " Estimated yield, " rather than that of " export and home consumption, " for the year 1921-22.

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[1] **Prices and Wages**, Table No. 2, 37th issue, p. 25.

Other Fibres: Hemp, Flax etc.—As no reliable data are available for the yield of these fibres, we shall, as explained in chapter III, take only six times the value of the exports as the value of raw fibres; while we shall deduct from the value of the manufactures the value of raw materials entering into them.

Raw flax and unmanufactured coir are quite negligible. There were only Rs. 38,000 worth of raw flax exported in 1920-1 and Rs. 2,300 worth in 1921-2; while the figures for unmanufactured coir are Rs. 85,000 and Rs. 98,000. The only considerable item is raw hemp. Taking six times the figures of the **Review of the Trade of India in 1921-2**,[1] and rearranging them for our purposes we get the value of raw-hemp as follows:—

Average for the	Value (in crores of Rs.)
Pre-war period	4.6
War and post-war period	6.8
Whole period 1900-22	5.4
Year 1921-2	2.3

10. **DYES AND TANS—Indigo etc.**—The price ratios for indigo are obtained from table No. 7 of the **Prices and Wages**. An average of January and July prices of Indigo ("good", "middling to good"), has been taken for our purposes. The valuation is as follows:

Average for the	Yield. (cwts.)	Price per cwt.	Value in crores of Rs.
Pre-war period ..	71,000	Rs. 240	1·70
War & post-war period.	68,000	652	4·43
Whole period 1900-22 ..	70,000	390	2·73
Year 1921-22 ..	68,000	618	4·20

Other dyeing and tanning substances

As regards the other dyeing and tanning substances, we have stated in the previous chapter that no idea of the yield is obtainable. However, we have there taken production to be about three times the export. As regards their value we shall follow a similar course, and multiply the export values[2] by three. This will give us at least some idea of the values of their total production. Here we shall only include cutch and gambier, safflower and turmeric, and shall exclude myrobalans (which will go in Forests), and the "other sorts" (which includes many mineral substances as well, and also lac dye which is to be included under Forests.)

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[1] Table 7 p. 48.

[2] As obtained from the issues of the Statement of the Sea-Borne Trade of British India.

The following is, accordingly, a rough estimate:

	Pre-war period.	War and post-war period.	Whole period 1900-1922.	1921-2.
	(In lakhs of Rupees.)			
Cutch and gambier ..	33	36	34	15
Safflower	4	4	4	1
Turmeric	33	33	33	27
Total ..	70	73	71	43

11. **DRUGS AND NARCOTICS.—Opium.**—There is some difficulty in selecting average prices per chest in the case of opium. The average annual prices, as determined by the quantity and value of Bengal Opium sold, have been given in Table No. 14 of the **Statistics of British India** Vol. II (Financial).[1] And January and July prices of each year at Calcutta have also been given in table No. 7 of **Prices and Wages.**[2] There is a close correspondence between the two sets of figures till about 1910; since when the former figures are somewhat higher. After 1915-6 the roles are reversed, and the **Prices and Wages** figures become very much higher. All things considered, (especially that the **Prices and Wages** figures are for two months only), the former are the better ones to go upon. But as the figure for 1921-2 is not yet out, we shall assume a price of Rs. 3200, rather than the inflated figure of Rs. 4522 as revealed by the **Prices and Wages**; this 3200 being in round figures the average price of 1920-1 (viz., Rs. 3107.)

The valuation is as follows:—

AVERAGE FOR THE	Estimated yield in chests of 140 lbs.	Price per chest.	Value (in crores.)
		Rs.	Rs.
Pre-war period	48,600	1910	9·28
War and Post-war period	18,000	2640	4·75
Whole period 1900-21-2	38,000	2260	8·58
Year 1921-2	14,300	3200	4·57

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[1] 10th issue, p. 154.
[2] 37th issue (1923), p. 43.

Tea.—The average price of tea, as seen from the **Prices and Wages**, table 7 [1], and the average declared value per lb. as given in the **Review of the Trade of India in 1921-2** [2], may be taken to be 7 annas, 8 annas, 7 annas, and 9 annas, respectively, for the four periods. Details of the annual average price of tea together with the average declared value of exports will be found in table No. 13 of the **Report of the Production of Tea in India in 1920.** [3]

The valuation will be as follows:—

Average for the	Yield.	Price per lb.	Value.
	Million lbs.	Annas.	Crores of Rs.
Pre-war period.. ..	240	7	10·5
War & post-war period	350	8	17·5
Whole period 1900-22..	280	7	12·3
Year 1921-22	274	9	15·4

Coffee:—No price quotations are given in the **Prices and Wages.** Recourse has to be had to the average declared value per cwt. on export given in table No. 49 of the **Review of the Trade of India in 1921-2,** together with table No. 7 (Quantity and value of exports) of the same issue. [4] The "pre-war average" of this publication though referring only to the quinquennium 1909-13, has here been taken to represent the average price for the whole of our "pre-war period."

The valuation is as follows:—

Average for the	Yield.	Price per lb.	Value in crores.
	Million lbs.	Annas.	Rs.
Pre-war period ..	38·1	7·5	1·78
War & post-war period..	37·4	9·1	1·89
Whole period 1900-22 ..	37·9	7·7	1·82
Year 1921-2	37·2	8·4	1·95

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1. **37th issue, pp. 38-43.**
2. **Table No. 49, p. 69.**
3. **26th issue, p. 18.**
4. **Table No. 49, p. 69 and table No. 7, p. 43.**

Tobacco.—In the last chapter we have estimated the yield of tobacco at 960 million lbs. We have also stated that the acreage, and therefore the yield, is constant for all the four periods of our inquiry. As for valuation, the **Prices and Wages**[1] gives the average annual wholesale prices of tobacco leaf. From this we obtain the following average prices for the periods, and the valuation:—

Average for the	Estimated Production	Price per maund.	Value in crores.
		Rs.	Rs.
Pre-war period	960 Million lbs. or 12 million maunds	10	12
War & Post-war.. ..		15	18
Whole period 1900—22..		12	14·4
Year 1921—22		17	20·4

The exports of unmanufactured tobacco were valued at Rs. 61 lakhs in 1921-2, and of cigars and others at Rs. 10 lakhs, thus totalling Rs. 71 lakhs. The highest figure was Rs. 92 lakhs in 1919-20; the pre-war average was Rs. 36 lakhs only, although the proportion of cigars was much greater.

Other drugs etc.—The heterogeneous substances included under this heading can at best be only very roughly valued by assuming production to be some multiple of exports. "Four times" seems to us to be a reasonable guess. The following valuation includes that for aloes, asafoetida, camphor, cinchona, bark, galangal, strychnia, (nux vomica), quinine salts, senna, etc. For the separate items one must see the **Annual Statement of the Sea-Borne Trade of India for 1921-2.**[2] Our figures are, however, based on table No. 7 of the **Review of the Trade of India in 1921-2.**[3]

Average for the Pre-war period	Rs. .76 crores
Average for the war and post-war period	Rs. 1.40 crores
Average for the whole period 1900-22	Rs. .98 crores
Average for the year 1921-2	Rs. 1.40 crores

12. **Fodder crops.**—In the last chapter we have obtained some rough idea of the total quantity of fodder produced on an average. But no means of evaluating it are available. [The "fodder" given in the Trade Reviews consists mostly of brans and pollards which are really derived from wheat.] And as a large portion of the area is devoted to direct grazing, there is really no sale value of the produce possible; but a hypothetical value must nevertheless

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[1] 37th issue, p. 24, table No. 2.

[2] 56th issue pp. 517-21.

[3] Table 7 p. 48.

be given to it. We give below some rough figures, which, however, are subject to a large percentage of error.

AVERAGE FOR THE	Quantity Estimated.	Average price assumed. per ton.[1]	Approximate value.
	Million Tons	Rs.	Crores of Rs.
Pre-war period	48	10	48
War and Post-war period	76	15	114
Whole period 1900-22	60	12	72
Year 1921-2	84	15	126

13. **Fruits and Vegetables.**—As stated in the previous chapter, no means of arriving at the total production of either fruits or vegetables are available; and even if we had succeeded in measuring production the problem of evaluating it would be as difficult as ever.

We may take the help of other sources and of trade figures.

Mr. Keatinge[2] gives some figures for the value of certain high class garden crops, which can be obtained under favourable conditions by skilful cultivators with the help of well irrigation.

Crop	**Value per acre**
Potatoes	Rs. 200 to 380
Sweet Potatoes	Rs. 300
Onions	Rs. 230
Surans	Rs. 1000
Ginger	Rs. 300
Turmeric and Yams	Rs. 250 and 150

This gives us about Rs. 400 per acre on an average. Allowing for the preponderance of surans, and for favourable conditions, we get an average figure of Rs. 200 per acre. But this was in 1910[3]. In that year the wholesale price of potato in Calcutta was from Rs. 2 to Rs. 3 per maund; while in these years it is from Rs. 4 to Rs. 6, an increase of a 100 per cent.[4]

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[1] **The Annual Statement of the Coasting Trade and Navigation 1921-2** gives figures from which a value of Rs. 30 per ton for fodder crops (exported to British Ports) is worked out. But as we are not sure what these crops exactly are, we here assume only half that value for 1921-2, while for the other periods proportionately less figures are assumed.

[2] **Rural Economy in the Bombay Deccan.** p. 176.

[3] Mr. Keatinge has taken his figures from Mollison's **Text-book of Indian Agriculture** Vol. III, a book published in 1910.

[4] *Vide* **Prices and Wages** 37th issue, 1923. p. 27.

And secondly, we have to remember that **on the whole**, the prices of vegetable crops are somewhat higher than those of root crops, while those for fruits are considerably higher.[1]

But as we have no acreage figures for fruits, vegetable-crops and root-crops, separately, we are constrained to make rough guesses. We shall proceed on the assumption that the average value of outturn per acre for all these crops is Rs. 150[2] for the pre-war period, and Rs. 300 for 1921-2; while for the war and post-war period it may be taken to be Rs. 250, and for the whole period average, Rs. 200. On this basis we shall get the following valuation:

Average for the	Area under cultivation (million acres.)			Average value of outturn per acre.	Total value of fruits and vegetables including root crops.
	British India.	Native States.	Total.		
Pre-War period ..	4.7	·6	5·3	Rs. 150	Rs. 79·5 crores
War & post war period	5·5	·6	6·1	,, 250	,, 152 ,,
Whole period 1900-22..	5·0	·6	5·6	,, 200	,, 112 ,,
Year 1921-22	5·5	·6	6·1	,, 300	,, 183 ,,

This valuation gives us a consumption of fruits and vegetables worth less than Rs. 6 per head of the population at the present time, which amounts to less than even one pice per head per day—certainly not a high figure, considering the fact that vegetables form a substantial part of the diet of millions of our people. And even if it is thought to be rather high, it must be remembered that much the greater part of fruits is consumed only by the middle and upper classes; and that fact will considerably reduce the amount of consumption per head of the lower classes.

The trade figures do not help us here at all. The **Inland Trade** figures[3] show an export of over 300,000 tons of fresh fruits and vegetables; but no **values** are given. In view of the fact that very considerable quantities of vegetables are grown merely for home consumption and for the local market, and do not enter into these trade figures, it would be very dangerous to make any sweeping assumption that the total production may be X or Y times the inland exports. So that we can get no idea at all from inland trade figures. As regards the foreign trade figures, our exports of fresh fruits and vegetables were valued at Rs. 44 lakhs in 1921-2; while the value of re-exports was Rs. 51 lakhs.[1] A good deal of fruits, vegetables and nuts is imported from countries across the land frontier; the value of it was as high as Rs 284 lakhs in 1919-20, but in 1921-2 it only occupied the second place in the overland imports, with a value of Rs. 151 lakhs. But it is obvious that these figures will give us no idea whatsoever of the country's production!

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[1] Dr. Mann (in his Land Land abour in a Deccan Village, Study No. II), estimates the gross value of output of an average orchard to be Rs. 675 per acre (in 1917).

The value of crop of an acre of peaches in the Peshawar Fruit Market is given to be Rs. 661 (in 1913). *Vide* Proceedings of the Board of Agriculture 1913 (Appendix G, p. 178).

[2] Although the prices of vegetables and fruits are greater than those of root crops, the yield per acre may not be so heavy. Hence, to be on the safe side, we take our average value per acre to be something less than Rs. 200, that is, something less than the value per acre of the outturn of the lowest kind of vegetable crops.

[3] Inland Trade of India, 1920-1, p. 17.

In connection with fruits we may be allowed to say that not that much attention is being given to fruit culture which its importance deserves. The Agricultural Department, busy with the more important food-crops, has not given it any attention, except to some extent in Quetta and Peshawar. Alongside of the cultivation, attention must also be given to fruit preservation and transport. "As a rule the general cultivation of any variety of fruit is peculiar to some locality. Within that tract the fruit usually commands no price. It is necessary if it is to be a source of profit, to carry it to some less favoured locality where there is a demand and where it will command a high price. The organisation of the fruit industry is a most important matter. When it is said that a clear profit of Rs. 1500 per acre on tomatoes has been obtained in Baluchistan, it will be seen that market gardening in India is not to be despised."[2] Indeed, if the problem of fruit preservation is properly and scientifically tackled in India, it should be possible to derive considerable income from this source alone.

14. **Condiments and Spices.**—Spices have always formed a most important item of our export trade. Indeed the object of some of the early European traders in the XVI and XVII centuries was none other than to obtain the spices of India and the farther East.

At the present time, trade in spices has declined considerably, at any rate, trade in other articles has grown so considerably that the spices trade has been reduced to insignificance. The present export trade in spices is as follows:[3]

Periods.	Quantity	Value.
	Cwt.	Rs. in lakhs.
Pre-war Average (1909-13) ..	325,000	85
War average	315,000	103
1920-1	279,000	83
1921-2	334,000	100

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[1] **Review of the Trade of India in 1921-2**, pp. 48, 49 and 84.
[2] **James Mackenna, Agriculture in India**, p. 78.
[3] **Review of the Trade of India 1921-22**, Table 7, p. 48.

To obtain some idea, however rough, of the value of our production we shall have to presume the total production to be some multiple of the "exports" of the International trade; and then we shall multiply the production so obtained by average prices obtained from the **Review of the Trade of India in 1921-2** (average declared value per unit, etc.)[1] Now the question is what multiple shall we take. We have here to consider several factors, e.g., that the Internal trade figures do not record the movement **within** a certain "block" or area itself; that the peoples of India are exceedingly habituated to the consumption of spices, and are known to prefer highly-spiced food; that the cultivation of spices is spread all over India—Madras, Bengal, Bombay, and the U. P. taking the lead; that, therefore, to allow for consumption within the Inland trade "block" itself we must only take a small multiple. We, however, venture to take production to be twice the "exports" of Inland Trade.

The following calculation for the year 1921-2 is made on this basis, from the figures given in the **Inland Trade.**[2]

Commodities.	Inland trade exports 1920-21	Estimated production.	Estimated price per Ton.	Valuation.
	Cwts.	Tons.	Rs.	Rs. in Crores.
Betelnuts ..	1,742,800	174,000	280	4·8
Chillies	1,124,700	112,400	450	5·0
Ginger	84,000	8,400	600	·5
Pepper	303,400	30,200	600	1·8
Others	1,720,000	172,000	250	4·3
Total..	4,970,000	497,000		16·4

Thus we get about Rs. 16.4 crores worth of condiments and spices from an area of about 1.8 million acres under cultivation. We can approximately put down Rs. 8, Rs. 16 and Rs. 11 crores for the remaining periods, seeing that the area under cultivation was about constant, while the prices were roughly half in the pre-war years, and almost as high (if not higher) in the war years and thereafter.

This finishes with the valuation of all agricultural produce. A summary of the same is given in Chapter VIII. In the next chapter we pass on to check our estimates of production and of value by the help of trade figures.

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[1] Tables 48 and 7.

[2] Inland Trade of India, (Rail and River-borne,) 1920-1 pp. 39-41.

CHAPTER V

Checks of Quantity and Value Figures

1. **Checks by figures of Foreign Trade.**—In this chapter it is proposed to check summarily, the quantity and value figures of the preceding two chapters, by means of trade figures.

Such checks may be of two kinds: by figures of foreign trade, and by figures of inland trade. It is evident that the quantity and value of what we export can under no circumstances be greater than what we produce. For a single year, or even two years, it may happen that we export more of a commodity than we actually produce, because the home-market is already glutted with huge stocks. But taking a series of years, this cannot happen. And should this be discovered it must be concluded that our calculations of produce are faulty. The utility of this check we have demonstrated in Chapter III in the case of coffee, where we have shown that the official figures of produce are greatly in defect, and entirely to be rejected.

Along with the foreign sea-borne trade figures must be also taken the export figures for the overland or Trans-frontier trade, as given, for instance in the **Review of the Trade of India in 1921-2.** [1] That trade is principally with Nepal in the North, Afghanistan and Persia across the North-West Frontier, and the Shan States and Western China across the Eastern Frontier. But as this export trade is very small—worth about 8½ crores on an average in pre-war years, and between 11 and 16 crores in war and post-war years—and as most of the principal exports are of cotton piece-goods, twist and yarn, iron and steel goods, and other materials, rather than of agricultural produce, we shall neglect it here.

2. **Checks by figures of Inland Trade.**—As for figures of inland trade, they are to be used with caution. Firstly, no complete figures are, or can be obtainable. The best that we have in the issues of the **Inland Trade (Rail and River-borne) of India** is the inter-provincial trade, (to and from 18 principal blocks into which India is divided). [2] Secondly, there is the danger of

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[1] Tables 58-60; pp. 85-6.

[2] See **Explanatory Note** to the 33rd issue (for 1920-1). That Note explains how the Inland Trade figures are compiled. For the purposes of the Inland Trade India is divided into eighteen blocks, but on what principle is not stated. Nine blocks represent the British Provinces. Four other blocks represent the principal port towns, viz. Calcutta, Bombay, the Madras Sea-Ports, and Karachi. Burma is altogether omitted as the Indo-Burmese Trade is nearly wholly coastwise. Five blocks make up the Natives States, viz., *(Contd.)*

the same quantities being counted twice over, in cases where there has been no through booking. If a merchant in Lahore sends a large consignment of wheat to Bombay, and this is subsequently sent to Bangalore, from where half of it is sent to Mettupalayiam for Ootacamund, then there would be a duplication of one-half and a triplication of the other half in the records of the Inland trade. For this and other reasons we cannot **definitely** say that the inland export figures for any commodity can **never** exceed the production figure. While comparisons for a single year may be vitiated for the same reason as in the case of exports by sea, viz., accumulated stocks.

It is found that owing to want of completeness in inland trade figures, the returns for exports and imports by rail and river are less than those given for total goods traffic over railways. Thus in 1920-1, the **Inland Trade**[1] figure for exports is about 34 million tons, which gives us 68 million tons total trade (exports and imports), as against the goods traffic in the same year of 87.5 million tons.[2] (The goods traffic for 1921-2 was 86 million tons.[3]) In spite of this defect, the Inland trade figures may still be useful to check our production figures. Unfortunately, however, the **value** figures for certain staples of agricultural produce which have been worked out in Appendix I of the **Inland Trade** issues, are absolutely too meagre to be of any use for comparative purposes.

Coasting Trade figures really speaking denote the inland exchange; but these figures need not be considered as the goods are brought to the ports by rail or river, and for the most part have already entered into the **Inland Trade** figures.

In the following two tables, we give comparative statements of the quantity and the value of our production, those of our exports by sea, and those of the Inland Trade exports. Any discrepancies noted have been explained in the footnotes. It will be seen that, except perhaps in the case of opium, our figures of production are in no wise upset when checked in the light of inland and foreign trade figures.

Footnote contd. from p. 131.]

Rajputana, Central India, the Nizam's Territory, Mysore, and Kashmere. In most cases, the "block" limits correspond to provincial boundaries, except that Sind and Baluchistan form one block, and the Punjab and the N.-W. F. Province also form one block. Trade between one block and another is recorded from railway invoices and so on; but as no indication is given of the movement of goods within the same block, the figures are of very little use as indices of the Inland Trade. In this respect, the figures of goods traffic on railways give a much better idea, (if we roughly divide them by two to allow for the same commodities being recorded by two railway lines). The value figures of some staple articles recorded by the **Inland Trade** publication are totally useless; they are admitted to be "only a very vague approximation to the truth."

[1] 33rd issue, p. 8.

[2] Railways in India, Administration Report for 1920-1, Vol. I. p. 36.

[3] *Ibid*, Report for 1921-2, Vol. I, p. 16.

Estimated production of Staple Commodities, compared with their amount exported by sea, and with their Inland Trade Exports.

Commodities.	Pre-war period average			War & post-war Period average			Whole period average 1900-22			Year 1921-22		
	Production.	Foreign Trade.	Inland Trade.	Production.	Foreign Trade.	Inland Trade.	Production.	Foreign Trade.	Inland Trade.	Production.	Foreign Trade.	Inland Trade.
	(**Figures in Millions.**)											
Rice Tons.	32·5	2·2	1·6	33·3	1·4	2	32·8	2.1	1·8	35·1	1·4	1·8
Wheat and wheat flour "	8·4	1·3	1·8	9·3	·5	1·7	8·7	1·0	1·7	10·0	·14	1·5
All other grains "	34·4	1·0	2·0	36·1	·4	2·0	35·1	·8	2·0	37·2	·1	1·8
Total oil seeds Cwts	74	30	38	79	14	26	76	20	33	85	16	25
Sugar "	46	..	18	58	..	16	50	...	17	56	..	12
Raw Cotton "	14·7	8	12	16·8	8·2	12	15·4	8·1	12	15·4	10	12·9
Raw Jute "	30·2	16	30	29·5	9·4	20	30·1	13	26	14	9·4	21
Tea Lbs.	240	230	236	350	324	336	280	264	272	274	314	280
Coffee "	38	29	...	37·4	26	...	37·9	28	..	37·2	26	..
Indigo "	7·9	2	4	7·6	3	3	7·8	2·5	4	7·6	1·3	2
Unmanufactured Tobacco Cwts.	8·6	·2	2	8·6	·2	2·2	8·6	·2	2·1	8·6	·2	2·1
Opium Lbs.	6·8	5.0	7·5	2·6	1·3	4·4	5·3	3.6	6·1	2·0	1·0	2·9

NOTES:—(1) The Inland trade figures quoted in the last column are those for the year 1920-21, and not for 1921-22. Hence some slight discrepancies.

(2) For reasons stated in Chapter III, the production of jute in 1921-22 was very little. But the Inland Trade figures show also the movement of accumulated stocks.

(3) In the same year, 1921-22, owing to an excessive glut in the market and a consequent fall of prices, the production of **tea** was also considerably reduced. The exports of tea in that year, therefore, exceed the production. (See Chapter III *Supra.*)

(4) In the case of opium, the Inland Trade figures happen to be always greater than the production figures. This may mean either that we have underestimated the production, or that there is some duplication in the Inland Trade figures. The latter is more probable because opium from surrounding provinces when brought to Ghazipur for refining is counted once, and we think it is also again counted when it is sent out from Ghazipur. Our production figures are calculated at 12 lbs. per acre. Our authorities showed that a unit yield of twelve lbs. per acre was quite reasonable, and this is also confirmed by dividing the production figures given in the **Financial Statistics** by area figures given in the **Agricultural Statistics**. Consequently ,we stick to our own estimates of production.

Estimated Value of the production of Staple Commodities, compared with the values of their exports by sea (and with the values of their Inland Trade Exports wherever available).

Commodities.	Pre-war average.		War and Post-war average.			Whole period average.		Year 1921-22.		
	Produ-ction.	Foreign Trade.	Produc-tion.	Inland Trade.	Foreign Trade.	Produc-tion.	Foreign Trade.	Produc-tion.	Inland Trade.	Foreign Trade.
	Figures in Crores of Rupees.									
Rice	353·6	22	541·1	29	18	419·2	20	696·7	33	24
Wheat and wheat flour ...	80	11	141·6	18	8	101·7	10	206·7	20	3
All other grains ...	235	4	385	...	5	290	4	570	...	1·6
Total oil-seeds	48·5	15	73·6	...	15	57·7	15	94·6	5 (Linseed only)	17
Raw Cotton	48·3	25	89·3	62	40	62	32	79·2	62	54
Raw Jute	28·3	18	39·1	21	15	32·2	17	25·2	21	14
Tea	10·5	10	17·5	...	16	12·3	11	15·4	...	18
Coffee	1·8	1·2	1·9	...	1·2	1·8	1·2	1·9	...	1·5
Indigo	1·7	·7	4·4	...	1·2	2·7	·9	4·2	...	·5
Opium	9·2	9	4·7	...	2·0	8·6	7	4·6	...	2

NOTES:—(1) Sugar and tobacco exports are quite negligible.

(2) The production of tea in 1921-22 was small because of accumulated stocks. Hence, for one thing, the value of production is somewhat less than the value of exports.

CHAPTER VI

Other Inquiries in Connection with Agriculture

RELATIVE ENCROACHMENT OF FOOD AND NON-FOOD CROPS

1. **Area under Crops.**—In Chapter III we have given details about the yield from the various food crops and non-food crops. We shall here briefly discuss the question of the relative increase of the one or the other, and whether the increase of one is at the expense of the other.

We must, however, bear in mind the fact that a series of figures of yield, given in the official publications, can give us no true index, because various new districts or provinces have been from time to time added into the Total figures, and because the yield depends on whether the year was good or bad. We have, therefore, to rely upon the statistics of area only.

The following table gives us the data necessary for discussion. Owing to want of accuracy and completeness, and to the fact of new reporting states having been added from year to year, the statistics for the Native States become absolutely useless for comparative purposes, and we have therefore excluded them, confining ourselves to British India only.

	Area under Crops in British India. (In Million acres)						
	1901-2	1906-7	1911-12	1916-17	1919-20	1920-21	1921-22
Total area sown.. ..	217	246	248	263	253	239	256
Area under food crops..	185	205	205	219	210	197	215
Percentage of total ..	85%	84%	83%	83%	83%	83%	84%
Area under non-food crops	32	41	43	44	43	42	41
Percentage of total ..	15%	16%	17%	17%	17%	17%	16%

From the above table we see that the total area increased in the first few years of the century, but since then there has been no marked increase, the slight variations being only due to seasons. The area both under food crops and under non-food crops has increased, but the latter relatively more than the former. Taking percentages, however, we find the percentage of food area slightly decreasing, while there is a corresponding increase in the percentage of non-food area. So the latter has slightly increased at the expense of the former.

2. **Likelihood of higher demands for India's non-food crops.**—The question is, whether it is desirable to extend the cultivation of non-food crops at the expense of the food-crops. In view of what is being constantly said about the deficiency of food grains in India and the consequent underfeeding, someone may urge at once that the extension is undesirable, since our primary concern is to see that the population is properly fed, so that it may keep itself in health and efficiency. But the solution is not so simple, and there is no reason to believe why an increase of exports of commercial crops or manufactured goods may not enable us to buy from foreign countries quite an adequate supply of the food grains we require—not to talk of the possibility of a considerable improvement in the yield of the principal crops in India itself. India is in quite a favourable position as regards many of her non-food crops of which there is a great world-demand, increasing every year. In Jute we have a monopoly; in tea we have a practical monopoly, too, since we have succeeded in ousting China from European and American markets; for cotton, there is likely to be a greater demand from Lancashire, since America instead of exporting her raw produce has now been thinking of turning her energies to cotton manufacturing; as to oilseeds India is the greatest source of the world's supply and the world's demand is still considerably in excess of the supply; in coffee, we have hopes to compete successfully with Brazil, with the improved yield that is expected to result from the new type of seeds that have been recently introduced in Mysore and Coorg; and so with regard to other minor products. This being so, these materials, raw or in a manufactured state, are likely to give us higher money returns on export; while on the other hand, with the establishment of settled conditions in Russia, and with the development of Canada and Australia, there is likely to be a greater supply of food grains than the European countries may require; with the result that it will be profitable, we think, to buy with our commercial crops some small portion of our food grains from abroad—if such a need at all be. Thus, for instance, if an area of 10 million acres, now sown with food grains, is made available for the cultivation of those commercial crops for which there is a demand, the change is likely to benefit India.[1] We cannot give here anything more than wide generalizations; because the question requires an expert study; both as to the nature and as to the extent of any suggested change of the kind indicated.

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[1] This statement assumes that the acreage under cultivation remains constant which it is likely to be for a long time to come. But it may be pointed out that there are about 115 million acres of "culturable waste other than fallow" in British India (for 1921-2 the figure is 151 million acres), which it is possible to press into service. The present total area under cultivation in British India being about 250 million acres, there is consequently the maximum possibility of expansion to the extent of about 50 per cent. of the present area. The beneficial effect of a possible expansion will, however, be nullified by a corresponding growth of the population.

(B) Possibility of the Extension of Non-food crops for export or manufactures.

3. **Exports of non-food crops.**—In the preceding section A, we have seen that there is likely to be a greater demand for India's commercial crops from foreign countries. In addition, the development of various industries within the country itself is going on rapidly, though not so rapidly as we should desire. On both these scores, it will pay to extend the cultivation of our commercial crops, and other non-food crops.

The following table gives some idea of the principal non-food crops we export from India: The figures are obtained from the **Review of the Trade of India in 1921-22.**[1] The average of 1909-13 may be treated as the "Pre-war" Average," and that of the quinquennium 1914-18 as the "War average."

Quantity and Value of Principal Non-food crops exported :—

Commodities.	Quantity. (Figures in thousands)				Value (in Lakhs of Rupees)			
	Average 1909-13.	Average 1914-18	1920-21	1921-22	Average 1909-13	Average 19141-8	1920-21	1921-22
Raw Cotton (Tons)	430	391	371	534	33,27	33,63	41,62	53,96
Raw Jute ,,	764	464	472	468	22,20	12,80	16,53	14,04
Oilseeds ,,	1453	708	624	735	24,36	12,17	16,83	17,40
Tea (lbs.)	266,497	322,691	285,752	313,878	13,06	17,54	12,14	18,22
Coffee (Cwt.)	255	216	233	235	1,37	1,18	1,42	1,39
Tobacco (lbs.)	20,427	24,046	23,306	22,903	23	41	63	61
Dyeing and Tanning substances (Cwt.)	1613	1261	956	1395	1,14	2,11	1,09	1,32
Hemp ,,	509	561	408	256	78	1,17	86	39
Opium ,,	52	14	11	9	9,96	2,17	2,52	2,05
Total value of Non-food crops					106.37	83,48	93,17	109,38
Total value of exports					219,49	215,96	240,01	231,38
Percentage of non-food crops to total exports					48·7	38·4	38·8	47·4

This table shows that our export trade in non-food crops had received a set-back during the War, but we are rapidly regaining our pre-war position. But the set-back during the war should not be taken to mean a loss of market for these produce. For, there did grow up a very powerful demand for them in the home-market itself; and large quantities, which in the ordinary course we should have exported, were diverted for home manufactures. Many industries were developed during the war, and as mills and factories, which have been once started, tend to remain, the demand for raw produce for home manufactures is to-day much higher than it was during the pre-war period.

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[1] Table 7; p. 47.

The table also shows what a high percentage the exports of non-food crops bear to the total.

For purposes both of exports and home manufactures, therefore, the extension of cultivation of these crops is desirable.

4. **Ways of bringing about their extension.**—In what ways is extension to be brought about? Firstly, by means of improved heavy-yielding seeds, and proper varietal selection, we can increase the yield even with the present acreage. And, secondly, it is not merely increasing the yield that is to be desired, but also improving the quality. It is with these problems that the Agricultural Department has been largely concerned. In Jute, the Bengal Agricultural Department has been greatly successful in isolating the superior strains from the common mixtures found in the fields. Cotton has, along with rice and wheat, always received a major share of the attention of the Agricultural Department, and the work of plant-breeding and improvement is constantly going on. In the Central Provinces, rotation experiments have shown that cotton after groundnut gave about 500 lbs. more of **kapas** per acre, than cotton after cotton. Such experiments are bound to be immensely useful. In Madras attention is directed to maintaining and improving the quality of the Tinnevellys and the Cambodias, which are now sold in the English Markets at prices greater than those fetched by the Middling Americans. In the Bombay Presidency, trials of several natural crosses are being made, and several successful strains are being further tested on a field scale. The results have been promising. In addition, successful results with flax have been obtained near Cawnpore, with groundnut in Orissa, with cocoanuts in Madras and along the Malabar coast, and with the new hybrids of coffee, called the "Jackson's hybrid," in Coorg. As for flax, the recent phenomenal rise in the price of that produce should make the cultivation of flax very profitable. Russia, which supplied 80 per cent. of the world's demands for flax, has for the present gone out of the market, while Belgium and northern France have not yet recovered completely; and though Canada, the U.S. and East Africa are all producing flax on an increasing scale, experiments show that India can also produce good crops, and even more cheaply than any other country. The extensive cultivation of another fibre, sann-hemp, can also be very profitable both for its yield and for the fact that it is a very useful rotation crop. Hemp is also a very fine green manure, and as such is very useful in a country like India where the soil is deficient in organic matter.

Thirdly, along with increasing the yield, attention must also be given to preventing destruction by diseases and insect-pests. In connection with this it may be noted, that the mycologists of the Agricultural Department are busy studying the problem of eradicating the weevil and the bollworm pests to cotton. The eradication may sometimes require drastic measures, as for instance, it may require a complete uprooting of all the old crops in a large tract. And under the Agricultural Pests and Diseases Act, power has been given to the Agricultural Department to take such and other measures. This act was brought into operation in certain districts of Madras in 1919. As regards jute, the Agricultural Department is investigating whether late sowing will not rid the plants of a fungus disease called "black band." As regards tea, there is a scientific department maintained—with the help of a Government grant-in-aid—by the Indian Tea Association, which investigates into all problems connected with tea. One of the most outstanding work of this department has been to cure tea bushes, infected with mosquito blight, by innoculating them with potash salts. Large tracts of bushes in a moribund state have been revived by this process.

Fourthly, extension of cultivation may be brought about by taking into use additional areas now lying idle, and returned as "culturable waste other than fallow." We have stated that there are nearly a 115 million acres of such land [1]; and with improvements in irrigation, some small portion of this at least may be utilized. Large irrigation schemes—like the Sukkur Barrage scheme—are already in hand, and these will render cultivable large tracts of land which have hitherto been left idle owing to lack of water supply. Another mode of extending the acreage under cultivation is that of using hill-slopes. There is in India many a promising hill slope available for the cultivation of coffee and tea; they can with little trouble be terraced for this purpose. We believe a large area of this nature does not even find its way into the figures of area by professional survey.

It is in these four ways, chiefly, that the extension of cultivation may be brought about. But merely and blindly increasing the yield is not advocated; for it is not even profitable. Thus there was a great slump in the tea trade in 1920-1, owing to a glut in European and American markets and the accumulation of stocks in the home-market. In such cases, we have to consider whether alternative crops may not be usefully substituted. To give an example, there are good chances for Indigo to be substituted for tea in some parts of Assam, seeing that the glut in tea has caused the producers' margin of profit to disappear in many cases. The principle of substitution may be applied in other cases also if need arises; provided the likely effect of any substitution is investigated beforehand. Thus jute may be substituted for rice in the deltaic regions of Madras.

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[1] The figure for 1921-2 is exceptionally high, viz., 151 million acres. (Provisional figures, supplied by the Commercial Intelligence Department.)

(C) Income from Cattle and other animals

5. **Forms of Income from cattle and other animals.**—In connection with other Agricultural inquiries we shall here try to get some idea of the income that we annually derive from our cattle and from other animals and insects. It is in this place that we can touch the subject because flocks and livestock are properly regarded as the assets of agricultural communities. And as to income derived from other animals and insects, we had best include it here along with that from cattle.

The income derived from all these sources is in various forms:—
Honey; bees-wax.
Silk.
Lac and its preparations.
Wool, Furs; bristles; feathers.
Raw Hides and Skins.
Bones and horns; ivory.
Meat; game; fowls.
Milk; eggs.
Manure.
Accretions to cattle and other animals.
(Work value of animals).

Useful Insects.—The three insects, which in India are useful to men are the bee, the silk-worm and the lac insect **(Tachardia lacca).** Sericulture has been known in India for centuries and silk manufacture is an ancient Industry, which is rather on the decline. The value of raw silk annually produced will be calculated along with that of silk manufactures. The lac industry which has grown so surprisingly in modern times will be treated in the chapter on Forests. Apiculture in India, however, takes, a remarkably subordinate position; but bees are plentiful here and there on the hill sides. It is possible to get some idea of wax from trade figures, but not of honey. The export of wax in 1905-6 was over 400 tons valued at upwards of 7 lakhs of rupees.[1] In 1916-7 there were exported 500 tons, valued at 9 lakhs of rupees. In recent years, there has been a decline. On the whole, Rs. 30 lakhs for pre-war years and Rs. 40 lakhs for war and post-war years, for wax and honey, will not be an over-estimation.

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[1] **Annual Statement of the Sea-Borne Trade of India. (several issues).**

Wool will be considered later on in Part III. Fur, and hair and bristles of such animals as are used for brushes, we neglect as being negligible.

6. **Hides and Skins.**—Raw hides and skins are a very important item, and figure as one of the principal articles of our export trade. The value of exports in 1919-20 reached the enormous figure of Rs. 23 crores. We shall take the value of raw hides and skins as **twice the value** of exports for the purposes of our three periods. Sir George Watt expressed his opinion [1] that the local consumption was as valuable as the exports of this material. For the very latest year, however, we shall be justified in taking **three** times **the** value of exports, because the export duty of 15 per cent., introduced since 1919, has checked the exports considerably, while the War gave a great stimulus to our leather manufacturing industries, giving birth to many tanneries. The following valuation is based on figures given in the **Review of the Trade of India in 1921-2.** [2]

Quantity and Value of Raw Hides and Skins available in India.

Average for the	Quantity. Thousand Tons.	Value. In Crores of rupees.
Pre-war period	100	20
War & Post-war period	134	24
Whole period 1900-22	110	22
Year 1921-2	144	18

These figures take no cognisance of the animals that die or are killed, but of which the hides and skins are not preserved.

Bones and Horns; Ivory.

These are useful for manure, and for the manufacture of small articles like buttons. It is however possible to get but a little idea of the value of bone-manure from export figures. But as bone-manure is not extensively used in our agriculture[3], (partly because of caste prejudices, and partly because this form of manure does not benefit cereals so much as nitrogenous manures do), we shall take the value of the production to be only twice the value of exports. Consequently, we get about Rs. 190 lakhs for the three periods and about Rs. 200 lakhs for 1921-2.

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[1] **Commercial Products of India.** p. 632.

[2] Table 7 p. 47.

[3] *Vide* Sir G. Watt. **Commercial Products of India,** pp. 767 and 169.

Ivory.—This material is either exported unwrought, or is used for manufactures or for inlaying wood—these articles being chiefly made in Delhi, Murshidabad, Mysore, Bangalore, Travancore, Moulmain etc. But the export of ivory and ivory manufactures is declining; the figure for 1920-1 being about Rs. 30,000. The total value of production in the year can hardly exceed a lakh of rupees.

7. **Manure.**—As for animal manure, it is interesting to note here that farm-yard manure is used both as fuel and as manure. It is not certain which is the more extensive use; but it is certain that the ryots show great carelessness as regards the preservation and utilization of cow-dung and cattle-urine,—perhaps the best and certainly the most economical of all manures. As to evaluating it, it may be said that we need not evaluate manure because it enters into the value of agricultural produce and so has already been counted in. But this is not strictly correct, as a large part is also used for fuel. Dr. Mann in his study of a Deccan Village (Jategaon Budruk) [1], says something about income from cattle. He values the manure at Rs. 3600 per annum; but as there are only 680 head of cattle in the village, the figure works out to Rs. 5 per head of cattle. At this rate, considering that there are 145 million head of cattle in British India and 32 millions in the Native States [2], i.e., say 180 millions all told, we should be getting a figure of 90 crores of rupees as value of animal manure. But a full half must be considered to be either wasted or to have had no sale value as having been used up as manure by the ryots who own the cattle; which therefore leaves us about Rs. 45 crores worth of animal manure per annum as income which must be reckoned in. [3]

8. **Meat, Game and Fowls.**—It is not possible to obtain any idea of produce on this score but we may safely put it at 35 crores for 1921-2; even if half of Sir George Watt's figure is correct, viz., that in India 40 per cent. of the cattle die annually or are slaughtered for food.[4]

The following is a rough calculation:

In 1920-1 there were in India 145 million head of cattle in British India and 31 million in the Native States, i.e., 176 million in all. [5] There were also

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[1] **Land and Labour in a Deccan Village, Study No. II**, pp. 97 and 102.

[2] *Vide* **Agricultural Statistics of India.** Vols. I and II for 1920-1.

[3] Dr. Mann says, *Op. cit.* p. 103, that a little under 50 per cent. of the total quantity of the dung made is used for making cowdung cakes for fuel.

[4] *Op. cit.* p. 632.

[5] **Agricultural Statistics of India** Vol. I and II for 1920-1, Table 5.

46 million sheep and goats in British India and 19 million in the Native States, i.e., 65 million in all.

	Cattle.	Sheep and Goats.
Total Number	176 Millions.	65 Millions.
From this we deduct young stock (though Sir Geo. Watt does not make any deduction on this account.)	48 „	19 „
Remain	128 „	46 „
Of this only 20 per cent. of cattle (as against Sir Geo. Watt's 40 per cent. die or are killed ; and 30 per cent. of the ovines.	25·6 „	13·8 „
50 per cent. of this supposed to be slaughtered for meat in the case of cattle, and almost 70 per cent. in the case of sheep and goats	12·8 „	9·7 „
At 15 rupees per head of cattle and Rs. 10 per sheep we get :	Rs. 19·2 Crores	Rs. 9·7 Crores.
Total value of the meat of cattle and ovines ..	Rs. 28·9 Crores.	
Add value of pork, game and fowls, about ...	Rs. 3·1 Crores.	
Total ...	Rs. 32 Crores.	

On similar calculations, we should put down the value of meat etc. in the remaining three periods at Rs. 16 crores; Rs. 25 crores and Rs. 19 crores respectively.

9. **Milk.**—This item is of the utmost importance in India where a diet of milk or of the products of milk, e.g., ghee, and other dairy produce, is the invariable accompaniment of the cereal diet in almost every home. Dairy farming is fast becoming an important industry. It will be evident that the income from this item will be very large.

We give below a valuation of milk, but in the meanwhile let us give some figures for ghee (clarified butter), which are available to us. In the years 1920-1 and 1921-2, the exports by sea of ghee amounted to 53 and 48 thousand cwt., valued at Rs. 50 and Rs. 46 lakhs respectively.[2] The pre-war figures are 47,000 cwts. valued at 29 lakhs, while the average for years after 1914 gives us a figure of 46,000 cwt. valued at Rs. 37 lakhs. This is only the export, which certainly is a very insignificant part of the total production. The Inland Trade

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[1] Mr. Keatinge says, (**Rural Economy in the Bombay Deccan,** p. 116), that a very large number of sheep and goats are killed for meat, nearly all the males. At this rate, allowing also for a large number of ovines of the other sex which are killed after they have ceased to yield milk or be of use for other purposes, the percentage will be nearly 30, if not more.

[2] **Review of the Trade of India 1921-2,** Table 7 ; p. 48.

figures for 1920-1, show an inter-provincial trade of 639,000 cwt. or nearly 864,000 maunds.[1] This at Rs. 90 per maund[2], the average price of the year, would give us 7½ crores of rupees worth of this commodity only. The figure for 1921-2 would (at Rs. 70 per maund) be about Rs. 6 crores. But these figures do not take account of the very large trade within the same "block", and, of course, not at all for consumption on the spot. If we allow for this, as also for consumption direct, we shall no doubt get over Rs. 20 crores for the latest year.[3] But the value of ghee, as of the other products of milk, will be reckoned in in the value of milk estimated below.

It is not possible to value the products separately; but we can get some idea of milk from cattle. To this we ought to add the value of milk from sheep and goats. The sheep is not of much use for milk, but the goat is. For, as Sir George Watt says,[4] "No conception of the value and extent of dairy farming in India could be formed were the part played by the buffalo and the goat to be omitted." The following is an attempted valuation of the value of milk of cattle:—

	Pre war period, 1900-13	War and post-war period, 1914-22	Whole period Average, 1900-22	Year 1921-22.
Estimated total number of cows and cow-buffaloes in British India and in the Native States [5]	44	56	48	62·5 Millions
Half considered to be in milk. ...	22	28	24	31·2 „
Average daily yield per animal may be taken at a low figure, as between two to four lbs.[6] Say 3 lb. As a rule, animals will milk for 6 months; therefore the average is 1½ lb. per day (i. e. about 1¼ seers) throughout the year. ∴ Average daily total yield is ..	33	42	36	46·8 Million seers
Price of milk per seer	½	¾	¾	1 Anna
Daily gross value of milk	1·03	1·96	1·68	2·9 Million Rs.
Annual gross value of milk	37·6	71·8	62·3	106.8 Crore Rs.

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[1] **Inland Trade of India 1920-21** Table 3, p. 35.

[2] **Prices and Wages** 37th issue; p. 5.

[3] Sir George Watt *Op. cit.* p. 480, proceeding on a different basis, estimated the total consumption of ghi (about 1906-7) to be worth nearly 20 crores of rupees annually. At this rate (i.e. @ 2 lb. per head per annum) we should be getting 64 crore lbs. for 1921-2, or nearly 55 crores of rupees. But there is no verifiable basis for this calculation.

[4] *Op. cit.* p. 469.

[5] **Agricultural Statistics of India, 1920-21** Vols. I and II, Table 5.

[6] Sir George Watt, *Op. cit.* p. 469.

It will be noted that we have taken fairly low figures of price and yield and made all reasonable allowances.[1] To our figures we must add at least 20 per cent. on account of the milk of goat, and the **increased** value[2] of milk products, such as ghi, butter, khir, dhai and curds, tak, sweetmeats etc. Hence, we get the total value of milk and milk products to be, in round numbers: 45, 86, 75 and 130 crores of rupees for our four periods respectively. The figures reveal the enormity of the income on this account.

Eggs.—No idea of the quantity of eggs available during the year can be obtained. But if we suppose that only 50 per cent. of the villages of India derived an income of only one dozen eggs per day, the total, at 4 annas per dozen, would still be valued at over 3¾ crores of rupees, for 1921-2. At 1½, 3 and 2 annas, we get about 1.2 crores, 2.4 crores and 1.6 crores for our remaining periods respectively.

10. **Accretions to live stock.**—The accretions to live stock may be valued as follows: [We shall take one-third of the total number of young stock (calves and buffalo-calves) and of colts and fillies, as being born within the year]:—

		Pre-war Average.	War and Post-war Average.	Whole period Average.	Year 1921-22.
		(M=Millions).			
Young stock (calves) „ (buffalo) [4]	...	28·7	39	33	37 11 M
1/3 born in the year	...	9·9	13	11	16 M.
Prices assumed	Rs.	2	4	3	5[3]
Value of young stock (cattle) ...	Rs.	**19·8**	**52**	**33**	**80 M.**
Colts and fillies [4]	..	·23	·28	·25	·3 M.
1/3 born in the year	...	·08	·09	·08	·1 M.
Valued at	Rs.	5	8	6	8 M.
Value of colts and fillies ...	Rs.	**·4**	**·7**	**·5**	**·8 M.**
Total value of young stock of cattle and horses born in the year ...	Rs.	**20·2**	**52·7**	**33·5**	**80·8 M.**
Add value of accretions to the stock of ovines and other animals ...	Rs.	·8	2·3	1·5	3·2 M.
Total:	**Rs.**	**2·1**	**5·5**	**3·5**	**8·4 crores.**

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[1] A good test is afforded by Dr. Mann's figures for the village of Jategaon Budruk. **Land and Labour in a Deccan Village Study No. II.** p. 102. The value of milk he gives at Rs. 8085; the number of cattle in milk is 112 (out of 196 i.e., 57 per cent. which Dr. Mann considers "very low," although we have taken only 50 per cent.) This gives Rs. 72 per cattle. (At this rate, we should be getting Rs. 223.2 crores for our 31.2 million cattle in 1921-22.) Even then, "it can never be insisted on too much that most of the Deccan is not really a cattle country"; and that "the yield of milk is **very low** as is always the case with the Deccan breed both of cows and buffaloes" (*Ibid.* pp. 97-8.)

[2] By **increased** value we mean the difference between the final value of these products, and the value of milk therein contained which we have already reckoned in.

[3] Dr. Mann (*Op cit.* p. 105), gives a figure of Rs. 3 for 1917; this is too low. The prices prevailing in the Deccan at present are between Rs. 6 and Rs. 10.

[4] **Agricultural Statistics of India**, Vol. I and II., 1920-1 Table 5.

The question is, if we add for cattle, born within the year, should we not deduct for those that die? The difficulty is a real one, for, though the cattle that die are every year replaced by that portion of the young stock which ceases to be "young stock;" that is to say, which begins to give milk or becomes useful for work—and statistics show that this replacement is generally more than the loss by death or slaughter [1]—yet we ought to make allowance for the depreciation of the stock, which is, indeed, not a negligible item. (See p. 147 below).

11. **Upkeep of Cattle and other animals:** It is doubtful whether we should estimate the cost of upkeep of the cattle stock in its entirety, because a very large percentage is kept on grazing only, or on the straw which the cultivator gets from his grain crops—both of which items have no sale value, and have not been given even an hypothetical value in our agricultural income. Dr. Mann assumes [2] that the animals get grazing for six months and have to be fed, partly at any rate, for the remainder. On this assumption, the cost of upkeep works out at Rs. 30 for bullocks, Rs. 15 for cows and cow buffaloes, and Rs. 10 per calf. It is, however, not clear whether the cost of upkeep includes also the value of straw from the cultivator's own grain crops which the cattle consume, or is exclusive of it.

We however proceed on the assumption that for the four monsoon months the cattle get enough grazing; that for other four months, they are kept on stubble-grazing and straw from grain-crops; and that for the remaining four months, they have got to be fed at a rate which is 2/3rds of Dr. Mann's (because the latter are for six months). The cost of upkeep would then in 1921-2 amount to:—

64 million bullocks and bull-buffaloes at Rs. 20 = Rs. 128 crores
61 million cows and cow-buffaloes at Rs. 10 = Rs. 61 "
18 million young stock (oxen and buffaloes) at Rs. 6 = Rs. 29 "
Rs. 218 "

Suppose that sheep and goats yield enough by way of net accretions to their number to cover the cost of their upkeep. [3] For the other four million animals (horses, mules, donkeys, camels), we assume a cost of Rs. 40 for half the number, (i.e., for the bigger animals) and Rs. 10 for the other half (i.e., the smaller animals and the young stock). This amounts in the total to Rs. 10 crores. In all, therefore, the cost of upkeep of cattle, horses, mules, donkeys and camels, amounts to Rs. 228 crores.

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[1] **Agricultural Statistics of India, 1920-21, Vols. 1 & 2,** Summary Table I.

[2] *Op cit.* p. 101.

[3] Mr. Keatinge (*Vide* **Rural Economy in the Bombay Deccan,** p. 116.) writes that they cost practically nothing to their owner for food ; while a very large number is killed for meat—nearly all the males. Hence, our supposition is practically "safe."

12. Net income from cattle, etc., and its significance.—The net income from cattle and other animals[1], calculated for the year 1920-1, is:—

Hides and Skins	Rs.	18	crores
Bones, horns etc.	Rs	2	”
Manure	Rs.	45	”
Meat	Rs.	32	”
Milk and milk products	Rs.	130	”
Accretions to cattle and horses	Rs.	8	”
Total	Rs.	235	”
Deduct for upkeep	Rs.	228	”
Net income from animals, (which, however, may be set-off against the depreciation of stock).	Rs.	7	”

The foregoing results suggest four points for comment.

(1) Though our figures show on the whole a net gain of Rs. 7 crores for 1921-2, it must still be borne in mind that our calculation is subject to a wide margin of error; and it is possible that there may be no net gain, whatsoever, but instead there may be a negative charge on account of cattle which must be deducted from the total income of the country. It will have been noticed that we have taken fairly low rates as regards the yield and the value of such things as meat, milk etc. On the other hand, it may be possible that we have underestimated the cost of **upkeep** of cattle and other animals. All considered, therefore, we think it best to hold that the income from cattle and other animals is equal to the cost of their upkeep; in other words, that the **net income** on this score is **nil.**

(2) The little or no net gain **on the average** shows that many a ryot may be actually suffering a loss on account of his cattle. This fact gives rise to remarks like that of Sir George Watt,[2] that "cattle nevertheless often become the cultivator's greatest source of poverty and danger";[3] especially in years of drought and outbreak of cattle diseases.

(3) The net gain from cattle does not mean the net **utility value** of cattle. For we have entirely ignored the fact that the upkeep of cattle would be met by their service, in other words, the **work-value** of bullocks and buffaloes. This can be roughly measured by the price which a ryot must pay for hiring the use of an animal. We cannot reckon in work-value because that is already embodied in the value or gross proceeds from agriculture. But we are bound to remember this item of work-value if we seek to obtain an idea of the **net advantages** that the country derives from its cattle. This will also be true of horses and other animals; but there is very much less justification for our omitting the work-value of horses, mules, and donkeys,

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[1] The value of income from poultry is ignored to allow for its upkeep.

[2] *Op. cit.*, 741.

[3] Says Mr. Keatinge: "In India the provision and maintenance of cattle is a source of difficulty and loss to the cultivator, while in other countries the cattle are a source of profit." (*Op. cit.* p. 130.)

camels and elephants, from the total net gain from animals, than there is for omitting the work-value of cattle. The latter may be assumed to enter into the value of agricultural production—though even here a large number of bullocks are used for transport purposes—but the former cannot be so assumed to enter. But the real justification for our omitting it is that there has been nothing material produced, no **wealth** created. The mere "services" cannot be reckoned in. (Vide Part I, ch. IV ante). For the same reason, we favour the omission of the work-value of slaves in a slave-state; the case of slaves being analogous to that of horses and other animals.

Nevertheless, to derive a complete idea of the **net advantages** from our animals we shall have to make some such calculation for annual work-value as the following:—

1.5 m. horses (out of 2.2 m. horses and mares), at Rs. 50	Rs.	7·5	crores,
2.1 m. bullcks and buffaloes (out of 65 m.) presumed to be used for transport purposes, at Rs. 40	Rs.	8·4	„
1 m. mules and donkeys (out of 1.7 m. total), at Rs. 10	Rs.	1·0	„
0·3 m. camels out of 0·5 m.) at Rs. 50	Rs.	·15	„
Elephants (not ascertainable) say	Rs.	·35	„
Total annual work-value of animals, about	Rs.	17·4	„

To this must be added the work-value of the remaining bullocks and bull-buffaloes used as drought animals; at Rs. 20 per animal this would amount to Rs. 125 crores. But this topic need not detain us as we are in this book concerned only with the net wealth of the country and the work-value of cattle is not to be considered at all, since it is already included in the value of the agricultural production which they help in producing.

(4) The last point we should like to state is a caution. It must be remembered that we have already counted in the cost of upkeep of animals. Therefore, the income of the people per head that we shall eventually obtain must be remembered to be free from all obligations to support cattle. The point is important. The average reader, we believe, when thinking of a cultivator's income, generally has in his mind the idea that a not inconsiderable part of it must have to be set apart for feeding his cattle; that, at Rs. 75 per head as income, a ryot and his wife, earning Rs. 150 per annum, will have to set apart about Rs. 50 or 1/3rd of their income for the upkeep of their pair of bullocks. But this notion will have to be given up. Whatever may have been the matter with other computations, it must at any rate be borne in mind with regard to ours, that no such allowances are to be made, and that the ryot's income is exclusively for his own enjoyment; it is net, free from all obligations to maintain the cattle. On the contrary, whatever services he obtains from the work of his cattle or any other animal, whatever comfort or enjoyment or assistance he derives from it, is an addendum to his money income.

CHAPTER VII

Forests and Fisheries

1. **Area and Utility.**—In the second chapter we have mentioned something about the different classes of forests and how the existence of forests helps production. But forests have a considerable amount of wealth in themselves which we shall briefly consider here.

There are in British India about 250,000 square miles (i.e., 160 million acres) under the control of the Forest Department,[1] but for all practical purposes the actual area under forest is only about 88 million acres.[2] To this we must add the area in the Native States, viz., 16 million acres; and we get the total area under forest in India to be just over a hundred millions, which, is one-seventh of the total area by professional survey.

The general economic importance of our forests cannot be measured by the mere money value of forest produce. The forest produce is of course great; but there is an indirect value as well. Forests are the regulators of the water supply which is so essential to agriculture. They intercept the copious rainfall, and conserve large quantities of it in the soil, which would otherwise have run away in destructive torrents. This water is subsequently released by seepage etc., and is the cause of rivers and springs being perennial. Forests regulate also the moisture of the soil, and the climate. It is difficult to conceive what the condition of our cultivation would have been without this most important asset.

Forests, besides, provide large quantities of food to men and cattle, large supplies of fuel, of building materials etc., which are obtained gratis. The Forest Department ascertains the value of produce given away free to be nearly one crore of rupees.[3] But indeed no count can be made of the small amounts—considerable in the aggregate—which the villagers obtain for themselves from woods in the neighbourhood.

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[1] 249,504 sq. miles according to the **Statistics relating to Forest Administration in British India 1921-2**, P. 1.

[2] **Agricultural Statistics of India.** Vol. I, 1920-1.

Owing to the enormous discrepancies between these two publications, we made inquiries at the Commercial Intelligence Dept., which elicited the reply, that the actual wooded area is properly that given in the **Agricultural Statistics**, while the area in the **Statistics of Forest Administration** includes in many provinces all unoccupied waste often entirely devoid of trees, which area, however, happens to be in the charge of the Forest Department. Unfortunately, this explanation is given neither in the **Agricultural Statistics** nor in the **Statistics of Forest Administration** (but strangely enough it finds its way in the (**Financial**) **Statistics of British India**, Vol. II, 10th issue, P. 151). Consequently, every writer on this subject has made the mistake of counting the whole of the area in charge of Forest Department as if it were the actual " area under forest."

[3] *Vide* **Statistics of Forest Administration 1921-2**, p. 22. Statement XVI.

In many other ways, besides, forests exercise a beneficial influence on human welfare, notably by giving employment to hundreds of people either in the many forest industries, or in the preservation of forests.

2. **Timber.**—Among the major forest produce, the chief one is timber. In the colder parts of North India, and along the slopes of the Himalayas, are to be found Deodar. Pine, Firs, Willows, Walnut etc.; in the U. P., the Punjab and a part of C. P., the Sal and the Ain are the chief timbers; while the teak is predominant in the South.

"There are few substances more widely used than wood, and although iron has superceded wood for many purposes, yet statistics show that the world's consumption of wood is steadily increasing."[1] As very little iron is produced in India the chief material for the innumerable purposes is wood. Unfortunately, no value of the wood removed from forests by government and private agency is given, but figures in cubic feet are obtainable.

Quantity in cubic feet of fuel and timber removed from Forests in British India by Government or private agency[2] :—

	Fuel and Timber.	Timber.	Fuel.
	(In Million c. ft.)		
Pre-War-average	220	...	...
1917—18	328	97	231
1918—19	343	91	252
1919—20	339	100	239
1920—21	298	90	208
1921—22	361	120	241
War & post war Average: ..	320	...	..
Whole period average 1900—22	260	...	...

This is for British India only. "Satisfactory as the increase is (of late years), the present yield is far less than the forests of the country are capable of producing under more intensive systems of management and with the use of more up-to-date methods of extraction than exist at present."[3] The revenue derived by the Forest Department from wood is Rs. 4.78 crores for 1921-2.[4]

The chief uses of timber are in connection with the superstructure of buildings, but there are many other uses as well, e.g., for bridges, piles, lamp-posts, house-posts, fencing, mine-props, paving-blocks, and not the least important of these, railway sleepers.[5] Considerable amount of timber is used for boat and ship building; for agricultural implements, and machinery like hand-looms, sugar-mills, oil-presses, rice-pounders; for joinery, cabinet making and furniture;[1] for carts, carriage, and motor body making; for casks and barrels; for ornamental carving and turning; for engraving, for pencil and match manufacture, and for wood pulp, for musical instruments and sporting requisites etc., etc.

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[1] Troup's Indian Forest Utilisation, p. 64.

[2] Statistics relating to Forest Administration in British India 1921-2, pp. 17-18.

[3] Quinquennial Review of Forest Administration in Br. India, 1914-5 to 1918-9, p. 4.

[4] For the "forest year", i. e., ending 30th June.

[5] Sal, deodar, and the Burmese pyinkado; formerly also teak.

At the present time, attention is being devoted in India to the manufacture of pulp for paper, and of matches. As regards the latter, the industry in India is yet in its infancy, but considering the abundance of wood suitable for match-making which exists in India, the industry has a decent future. It is estimated that 70 large match factories would be required if India were to manufacture all the matches she now imports.[2]

Paper-making proper is not likely to be a forest industry to any extent, because of the many varieties of paper which can be made from different substances and which necessitate the mills being placed in contiguity to markets. But pulp-making from wood is properly a forest industry. Owing to the rapid exhaustion of many of the forests of Europe and North America, attention has of recent years been drawn to the resources of India as a pulp-making country. It appears probable that before long India will have a great paper-pulp manufacturing industry. Various experiments are at present being made with bamboos, and **Saccharum** and other grasses.

On the other hand, the wooden ship-building industry, what with freight dues and the indifference of the Government, is on the point of being annihilated. Certainly, the wooden ship should be very useful for the small scale coasting trade of India.[3]

A very large quantity of forest produce is used as fuel. It must be remembered that expenditure on fuel is rarely incurred by the vast masses of the Indian population, so that over and above the fuel directly removed from forests and returned in Forest Statistics, there are large supplies which are merely had for the gathering. But we cannot value that, as they may be taken to have had no sale value. Nor have we any idea about the quantity of charcoal available. As coal is very little used in India, as compared to other countries, the part played by firewood and charcoal must be an important one. Many railways are run by firewood, as in the Southern Maratha country.

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[1] India possesses some furniture woods which are highly valued in Europe, such as Blackwood or Rosewood, Walnut, Teak, East Indian Walnut, Andamans Redwood (Padauk), Satinwood, Andamans Marblewood, Ebony and others.

[2] Troupe, **Indian Forest Utilisation**, p. 7.

[3] *Vide* Professor Shah, **Trade, Tariffs, and Transport**, p. 443. It is at present too early to say how far the recommendations of the Indian Mercantile Marine Committee will be carried out.

3. Minor Forest Produce.—As regards the value of minor forest produce, the following are the figures for the last few years [1]:—

Year.	Bamboos.	Grazing and Fodder. grass.	Other produce.	Total.
	(Figures in lakhs of Rupees)			
1917-18	15	73	47	1,36
1918-19	16	76	49	1,42
1919-20	16	76	64	1,28
1920-21	12	72	51	1,36
1921-22	15	65	57	1,38

"Other produce" includes a large variety of things:—grasses yielding fibre for cordage and ropes, for matting, and for basket-making; thatching grass; grasses from which scented oils are derived (e.g., the rosa oil, the lemon-grass oil, the citronella oil etc.); there are also many other varieties of tall coarse grasses which will prove of great use in the manufacture of paper pulp, while in Northern India a durable paper employed for deeds and permanent records (called the Nepal paper) is actually made from a bast fibre. Quite a considerable number of trees are lopped every year in order to use the leaves for fodder, for litter, or for manure. Various fibres and "flosses" (or "silk cottons") are obtained from the fruits of certain plants (e.g., the cotton plant), or from the leaves of certain palms. Although, owing to their scattered nature and high cost of collection, forest oilseeds cannot compete with those of the field crops, there are yet many oilseeds obtainable in forests, the oils expressed from which are of great use either for food, for instance, as substitutes for or adulterants of ghi, or for cooking, lighting, candle making, soap-making, for lubricating, and especially for medicinal purposes. There are several trees from the wood of which oils and other substances are distilled, to be used for perfumery, for medicinal and other purposes; e.g., sandalwood oil, deodar oil, chir-tar, camphor, agar, and other attars and perfumes. Other trees are useful for the valuable gums, resins (e.g., dammar), and varnishes which they afford. Among the most famous of these are the pine trees which yield turpentine and colphony or rosin (see § 4). Many forest trees are famous for the valuable drugs and spices which are obtained from them. There are also innumerable forest-trees and shrubs which yield edible fruit, and are of great value in times of famine. Some seeds are also used to that end, e.g., the well-known cashew nuts. Even some varieties of flowers also are used for food or distilled into intoxicants (e.g., Mohwra); while the sugary sap of the cocoanut palm, the palmyra or toddy-palm, and the date palm is too well known. There are many minor products obtainable from forests, whose existence we cannot even suspect, e.g., the sola or pith from which sun hats are made!

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[1] Statistics relating to Forest Administration in British India, 1921-2. pp. 17 and 19.

4. **Turpentine and rosin.**—A very promising forest industry in India is that of turpentine and rosin. These products are obtained from the various species of the Pine Trees. The most useful of these is the **Pinus longifolia** which is found in large numbers in the Himalayas.

At present, the principal countries which produce oil of turpentine and rosin on a commercial scale are the United States of America, and France, and to some extent Austria and Norway also. In India, systematic tapping of pines has been carried on for several years in the Himalayas, but the produce as yet barely suffices for the home market. Moreover, the quality of the Indian oil of Turpentine is inferior, because it does not dry away quickly. But this defect can be removed with improved methods of distillation, for instance, by the substitution of distillation by superheated steam instead of by water.

The oil of turpentine, largely used for the preparation of paints and varnishes, and for medicinal purposes, is obtained either by exuding crude resin by tapping, or by distilling the resinous wood.[1] Colphony or rosin, is the solid residue which remains after distillation, it is also largely used for the manufacture of soaps, sealing wax, varnishes, cements, ointments, etc. To the violinist it is a great boon! The best kinds of rosin are obtained from the **Pinus Khasya**, and **P. Merkusii**, found in Assam and Burma.

Owing to the great demand for both these products and to the great abundance of pine trees in our country, there is a great future for this industry, if it is properly cared for. It is true that the best pine, the **P. Khasya**, the **P. Merkusii**, and the **P. Excelsa** are situated in remote places so that the cost of transport becomes too great for their tapping to be remunerative just at present; but these difficulties will disappear if the industry is carried on on a large scale. At any rate, there will always be enough **pinus longifolia** for the industry to carry on. The yield of this tree is from 5 to 12 lbs. per year, the highest yield being the 3rd year. Mr. C. W. E. Cotton gives[2] some figures for the quantity of rosin and turpentine produced in India. The pre-war average works out to 9000 cwt., and 35,000 gallons respectively; and the war average to 37,000 cwt. and 112,000 gallons. If we postulate an improvement over the 1917-8 figures, the production in 1921-2 cannot be less than 50,000 cwt. and 150,000 gallons; this at Rs. 26 per cwt. for rosin, and Rs. 9 per gallon of turpentine, gives us about Rs. 26 lakhs.

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[1] Troup *Op. cit.*, p. 261.

[2] Handbook of Commercial Information for India p. 320.

5. **Dyes and Tans.**—A second important forest industry is the extraction and manufacture of dyeing and tanning materials. Tanning, which is useful for treating raw hides to prevent their decomposition, is extracted principally from the heart-wood of the Acacia Catechu[1] which is a very useful tree, and is found in considerable numbers in the Himalayan forests. From the same tree, principally, are obtained dyeing substances known as cutch, kath, and keersal. Dyes are also obtained by decoction from the bark, wood, leaves and flowers, and even fruits, of many other trees and plants. Many of the barks used for tanning are also useful for dyeing, because the tannic acid combined with salts of iron gives us black, grey, purple and green colours.

Among other products, the most important are the fruits of the terminalia chebula, [2] called myrabolans. These fruits are rich in tanin, and are extensively used for tanning and dyeing.

Considerable quantities of myrabolans are exported from India every year. The quantities and values are [3]:—

Periods.	Quantity.	Value.
	Cwts.	Rs. in lakhs.
Pre-war average	1,400,000	59
War average	1,058,000	56
1919-20	1,858,000	101
1920-21	793,000	40
1921-22	1,239,000	58

6. **Caoutchouc.**—A third most important forest industry is that of Caoutchouc or rubber. We were doubtful whether to include this under agricultural produce, (Ch. II and III), or under forests, or thirdly, to postpone its consideration till we come to manufacturing industries (Part III); but the manufactures are small in value, and rubber is generally included among forest produce. Hence, we consider this topic here.

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[1] Troup *Op. cit.*, pp. 171; and 274.

[2] *Ibid* p. 175.

[3] Review of the trade of India 1921-22, table 7, p. 48.

The following statistics of rubber are compiled from various sources.[1]

Periods.	Area cultivated. Thousand acres.	Yield. Million lbs.	Raw Rubber exported. Million lbs.	Value of raw Rubber exported.	Value of Rubber Manufactures exported.
				Lakhs of Rs.	Rs.
Pre-war Average..	..	..	1·1	38	..
War Average ..	..	..	7·7	158	..
1919-20 ..	118	13·6	12·5	168	18,210
1920-21 ..	124	13·7	14·0	155	44,440
1921-22 ..	124	9·0	11·0	77	4,435

(The first two columns give figures which are subject to revision).

Generally speaking, there are two valuable commercial products obtainable: India rubber or caoutchouc, and guttapercha. Plants yielding the former are cultivated extensively in Travancore and Burma, and those yielding the soft plastic guttapercha in Burma alone. There are many rubber producing plants indigenous in India e.g., the Assam or Ramboug rubber; while extensive tracts are planted with exotic species, e.g., Para rubber. The last has proved the most profitable in our country.

Owing to markets being glutted with stocks in about 1919-20 the rubber producers of the Straits Settlements and the Malay Peninsula, in conjunction with those of Burma, had resolved on a restriction of output. But under normal times, rubber will fetch high prices; and with the development of the motor industry, and the discovery of new uses to which rubber can profitably be put (e.g., for making road surfaces), the rubber industry will prove to be greatly remunerative.

7. **Other forest industries; sandalwood oil.**—Other forest industries are the manufacture of charcoal, the extraction of various oils and tans, the distillation of camphor, the antiseptic treatment of wood (to increase its durability), the pressing and baling of hay, etc., etc. Of the oils, the sandal-wood oil extraction is the most important one. The sandalwood oil factory at Mysore claims to be the largest of its kind in the world, the one at Bangalore coming next. In both these places, the wood is first reduced to fine filings and these again into fine powder, so that, on distilling, the greatest amount of oil may be obtained. The two factories bring to the Mysore State about 25 lakhs of rupees annually.

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[1] Area and Yield of the Principal Crops in India, 1921-2, p. 21, Review of the Trade of India, 1921-2, p. 46, and Sea-borne Trade of India for 1922, p. 627.

In **Mysore** and in **Coorg**, all **sandalwood trees** are the **State property**. In **Madras**, though private ownership is recognised, production is almost a State monopoly. These are the only areas where the **santalum album** occurs. The quantity and value of sandalwood and sandalwood oil exported, apart from carved work like caskets, picture frames, etc., is as follows.[1]

Periods.	Sandalwood.		Sandalwood oil.	
	Quantity.	Value.	Quantity.	Value.
	Tons.	Lakhs of Rs.	Gallons.	Lakhs of Rs.
Pre-war average	..	13	..	..
War average	..	10	..	21
1919-20	509	9	16,460	41
1920-21	244	4	12,270	30
1921-22	379	7	6,654	14

8. **Lac.**—It will be convenient to speak here something on the lac insect, which is really a forest insect Lac is the resinous incrustration on the twigs of various trees produced by the minute insect called the **Tachardia Lacca.** and, some believe, also by a few other species of the **tachardia.** This substance is of value in many things: It contains a crimson dye called lac dye, which was of great value before the introduction of aniline dyes. The resinous substance is, after undergoing a certain process, commercially known as shellac, and is of immense use in the manufacture of varnishes, cements, sealing-wax, laquer work, lithographic ink etc. The gramaphone records we play will not have been made but for this tiny insect![2] So enormous is the value of lac in the market that we obtained nearly 8 crores of rupees for an export of about 22,000 tons in 1921-2.

The quantity and value of lac exported[3]:—

Periods.	Quantity.	Value.
	Cwt.	Lakhs of Rupees.
Pre-war Average (1909-13)	434,000	2,20
War Average	345,000	2,57
1919-20	376,000	7,26
1920-21	906,000	7,58
1921-22	435,000	7,91

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[1] **Sea-Borne Trade of British India** for 1922, pp. 607 and 732, and **Review of the Trade of India.** 1921-2, p. 48.

[2] Recently an American Company produced celluloid records, a few specimens of which were seen in India. But as nothing more is heard of the records or of the firm it is probable that the venture might have proved unprofitable.

[3] **Review of the Trade of India,** 1921-2, p. 48.

Nearly the whole of these values is represented by shellac; the other varieties, viz., stick-lac, button-lac, seed-lac, etc., forming a very minute portion.

In Japan, in Formosa, and in the ex-German East Africa, repeated attempts were made at lac-culture, but all to no avail. At present, therefore (excepting a 2½ per cent. production in Siam and Indo-China), India has a monopoly in the lac trade. Mr. C. W. E. Cotton,[1] estimates the world's total supply of stick-lac to be about three-quarters of a million cwts., representing about 350,000 cwts. of shellac. As the whole of this may safely be credited to India, and our exports are about 250,000 cwts., it is possible to get some idea of the home consumption. We can also say that the total production is about one and a half times the exports.

Finally, we may remark that lac figures very prominently in the "Exports of forest produce, and their valuation at the port of shipment"—a statement prepared by the Forest Department,[2] although that Department has still to tell us what hand it has had itself in the production and manufacture of lac! The total value of forest products exported is Rs. 9 crores in 1921-2, and about Rs. 10 crores during the last few years; but out of this, lac alone accounts for 7.9 crores or about 8 crores of rupees.

9. **Estimated total income from Forests.**—We shall now try to get the approximate total value of forest produce in 1921-2:

	Rs. (Lakhs).
Lac (One and a half times the export)	1,196
Caoutchouc (one and a half times the average of the value of raw rubber exports during the last three years).	200
Myrabolans. (One and a half times the export)	87
Turpentine and rosin. (Estimated value of production).	26
Sandalwood oil (one and half times the average of export values for the last 3 years)	42
Other essential oils (do. do.)	29
Timber and Fuel (Twice[3] the gross receipts from "wood" to the Forest Department).	956
Grazing (Twice[3] the gross receipts from "grazing" to the Forest Department).	58
Forest produce given away gratis or taken away free (Twice[3] the value estimated by the Forest Department).	170
Miscellaneous	36
Estimated total value	Rs. 2,800 lakhs.

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[1] *Op. cit.* p. 240.

[2] Statistics relating to Forest Administration in British India, 1921-2.

[3] The "twice" is intended to account for the Native States as well as for value of private property with which the Forest Dept. can have nothing to do.

This gives us about Rs. 28 crores from Forests in 1921-2. For the earlier periods, we can make rough guesses, bearing in mind that lac then had only one-fourth the value it now has, that some other products like caoutchouc or turpentine or sandalwood oil, are only the developments of the later years, that the outturn of timber and fuel was considerably less in pre-war days [1] and above all that prices were only half as much in the earlier years. We are therefore inclined to put down the income from forests:

For the pre-war period	(1900-14)	at Rs.	10	crores
For the War and post-war period	(1914-22)	at Rs.	20	”
For the whole period average	(1900-22)	at Rs.	14	”
For the year 1921-2	”	” ”	28	”

10. **FISHERIES.**—There is no doubt that, owing to a long coast line, abundance of fish in the home waters, and a race of fishermen who have brought the fishing industry to a high level, large quantities of fish are daily consumed in the coastal regions of India. Until very recently, however, there were no means of going a-fishing into the high seas; but owing to the interest taken in deep-sea fishing by the Madras Department of Fisheries, and to some extent by the Bombay Department of Industries, a system of sending out steam trawlers was inaugurated some time back. The result has been a failure both in Madras and in Bombay; because although very large hauls have been obtained, many varieties were of an inferior quality, and they wouldn't even pay the cost of transport. Indeed, after a six months' experiment in Bombay with the steam trawler "William Carrick," it was even said that "trawling was not yet a commercial proposition in the Bombay waters." [2] In this particular case the experiment was conducted under bad conditions: the trawler itself was not a good one and cost very much by way of repairs and renewals at every one of its 36 voyages; the price of coal was then exceptionally high; and very poor arrangements for cold storage existed. [3] The experiment in Madras had better results.

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[1] The outturn of timber and fuel was 247 million cubic feet in 1909-10, and 361 million in 1921-2, an increase of 50 per cent.—**Quinquennial Review of Forest Administration.** 1914—19, p. 4. and **Statistics of Forest Administration**, 1921—22, p. 23.

[2] **Annual Report, Department of Industries** (Bombay) 1921-2 p. 23.

[3] There was consequently a heavy loss on the venture: the total value of the catch being Rs. 19,000, while the monthly cost of maintenance excluding repairs was Rs. 11,000. The trawler was used for 10 months.

But in both cases, success was limited by the fact that some kinds of fish, quite good and edible, like the karel or the skate, are not at all popular, and these constituted nearly 40 to 50 per cent. of the catch. On several occasions, skate was not sold at all, and when sold it brought only Re. 1 for 100 lbs.!

It is possible that with better conditions in the market and less cost on coal trawling in the Indian waters, with a small flotilla of trawlers or small fishing vessels driven by power, may be commercially profitable. This has been the experience of every other country; like England, Canada, Denmark, Norway etc.

Coming now to the consumption of fish in India, we are absolutely handicapped by the lack of any material to go upon. The coasting trade figures show a trade of about Rs. 70 lakhs in dried and salted fish,[1] but no idea of the total consumption of fresh or even of the dried fish can be obtained therefrom; nor from the foreign trade figures of export by sea (50 to 60 lakhs.) A bold guess would be to take the value of fish consumption as 1-10th that of the meat consumption, which means at about 3.2 crores of rupees in 1921-2.

The pearl and chank fisheries are insignificant; they are hardly worth a lakh of rupees. They are carried on in the extreme South of the Peninsula (and in the Margui Archipelago). There is hardly any extraction in mother of pearl or mussel shells in India.

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[1] Coasting Trade and Navigation of British India, 1921-2, p. 31.

CHAPTER VIII

Summary of Part II

1. **Retrospect.**—From a review of the previous chapters it will have been seen what an important part agriculture plays in the economy of India, and why it is that India is described as a leading agricultural country. The total production from agriculture comes to about Rs. 2100 crores in 1921-2, a gigantic sum. Nearly a third of this or 32 per cent. is obtained from the production of rice—such is the importance of this crop in India. Wheat comes next, being about 10 per cent. of the total value of agricultural production. The minor food grains together represent 25 per cent.; vegetables and fruits 8 per cent.; oilseeds 4 per cent.; cotton 3 per cent.; Jute 1.5 per cent.; tea 7 per cent.; fodder crops 6 per cent.; and the remaining 10 per cent. are made up for by sugar, indigo, tobacco, coffee, etc.

Agriculture is, indeed, India's premier industry, supporting as it does over 250 millions of the population. Agriculture has always been India's premier industry, and will always remain such even though a policy of intensive industrialisation may develop India's manufacturing industries. Because, even if manufacturing industries should develop greatly, it is agriculture that must find the raw material for it, while the very vastness and expanse of our country must always tempt agricultural enterprise. But the relative proportion of food and non-food crops may change. At the present time, non-food crops occupy 16 per cent. of the area, and represent 13 per cent. of the total value of production, but these figures may very likely alter in their favour.

In spite of so enormous a production of food grains, it will be clearly seen from Book II that there is actually an insufficiency of food crops, and consequent underfeeding. On an average, our population is underfed to the extent of 20 per cent. below the normal requirements computed on a moderate standard.

Cattle in India do not seem to be economically of much benefit since the net income from them is practically nil; but then we have also got to remember the work value of bullocks and other male animals which has not entered into the money income as calculated.

The Forest wealth of India is about Rs. 28 crores, which considering the extent of the country and the area under forests is not a large figure; and only reveals the fact that the forests of India have not yet been properly exploited.

2. **Summary of Quantity figures.**—The following is a summary of the quantity figures of agricultural produce for our four periods:—

Commodities	Unit.	Pre-War average	War & post war average	Whole period average	Year 1921-22
Rice	Million Tons. ...	32·5	33.3	32·8	35·1
Wheat	" " ...	8·4	9·3	8·7	10·0
Barley	" " ...	3·2	3·4	3·3	3·5
Jowar	" " ...	6·9	7·7	7·2	7·3
Bajra	" " ..	3·6	3·4	3·5	3·5
Maize	" " ...	2·4	2·8	2·5	3·0
Ragi	" " ...	3·3	3·4	3·3	3.5
Gram	" " ..	4·7	4·8	4·8	5·8
Other food grains and pulses	" " ...	10·3	10·6	10·5	10·5
Total food grains	" " ...	75·3	78·7	76·6	82·3
Sugar	" " ..	2.3	2·9	2·5	2·3
Linseed	Thousand tons.	452	450	451	476
Sesamum	" " ..	654	651	653	745
Rape & Mustard	" " ..	1160	1186	1170	1262
Groundnut	" " .	1460	1008	1532	970
Other Oil seeds	" " ...		652		820
Total Oil seeds [1]	" " ..	3726	3947	3806	4273
Cotton	Million bales	4·2	4·8	4·4	4·4
Jute	" " ...	8·7	8·	8·6	4·0
Indigo	Thousand cwts. ...	71	68		68
Opium	Thousand chests.	48·6	18	38	14·4
Tea	Million lbs. ...	240	350	280	274
Coffee	" " ...	38·1	37·4	37·9	37·2
Tobacco	" " ...	960	960	960	960
Fodder-crops	Millions tons ...	48	76	60	84

The figures show a slight but appreciable increase in food-grains and oilseeds, and in some other non-food crops as well. This is really-speaking the true criterion of progress and its measure. The low figures of jute and tea for 1921-2 are due only to temporary causes. The only serious decline is in opium, which however is not quite regrettable.

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[1] Excluding cotton-seed the yield of which is roughly 2 million tons.

3. Summary of Value figures.—The following is a summary of the value of each item of our agricultural production, for each of the four periods of our inquiry:—

Commodities.	Pre-War period.	War & post war period.	Whole period 1900-22.	Year 1921-2.
	(Figures in Crores of Rupees)			
Rice	353·6	541.1	419·2	696·7
Wheat	80·0	141·6	101·7	206·7
Barley	20·9	31·4	25·1	47·6
Jowar	48·8	81·6	60·7	117·1
Bajra	24·5	44·3	31·4	67·5
Ragi	23·3	32·3	26·0	41·0
Maize	16·3	30·4	20·4	47·3
Gram	37·0	61·3	45·7	102·5
Other food grains and pulses.	65·0	104·9	79·8	147·0
Total food grains ...	**669·4**	**1068·9**	**810·0**	**1473·4**
Sugar	36·5	69·1	45·3	95·7
Fruits & Vegetables	79·5	152·0	112·0	183·6
Condiments & Spices	8·0	16·0	11.0	16.4
Total Food crops ...	**793·4**	**1306·0**	**978·3**	**1768·5**
Linseed	7·1	9·2	7·8	12·1
Sesamum	10·6	17·0	12·9	23·0
Rape & Mustard	14·5	22·5	17·1	28·7
Groundnut	16·3	18·1	19·9	20·5
Other Oil seeds		6.8		10·3
Cottonseed	7	9	8	11·0
Total Oil Seeds ...	**55·5**	**82·6**	**65·7**	**105·6**
Fibres : Cotton	48·3	89·3	62·0	79·2
Jute	28·3	39·1	32·2	25·8
Sann-Hemp	4·6	6·8	5·4	2·3
Other non food crops:—				
Indigo	1·7	4·4	2·7	4·2
Other dyeing & tanning materials ...	·7	·7	.7	·4
Opium	9·3	4·8	8·6	4·6
Tea	10·5	17·5	12·3	15·4
Coffee	1·8	1·9	1·8	2·0
Tobacco	12.0	18·0	14·4	20·4
Other drugs and medicines	·7	1·4	1·0	1·4
odder crops	48.0	114·0	72·0	126·0
Total non-food crops excluding Oil seeds ..	**165·9**	**297·9**	**213·1**	**281·7**
GRAND TOTAL ..	**1014·8**	**1686·5**	**1257·1**	**2155·8**
To this must be added :—				
Forest Wealth	10	20	14	28
Fisheries	1·2	2·5	1·9	3.2
TOTAL GROSS WEALTH IN PART II ..	**1026**	**1709**	**1273**	**2187**

4. **Deduction for seeds etc.,**—From the gross value of our produce we must certainly deduct for seeds. There is no need to deduct for the impoverishment of the soil, for we can safely assume that the natural fertilising agents of which the soil is **pro tanto** denuded, return to it ultimately in the shape of animal, leaf, and mineral manures; and restore its fertility. Wear and tear of implements would be a very insignificant and indefinite item. The net cost of upkeep of cattle is cancelled by the income we derive from them. We must certainly deduct net cost of upkeep of cattle if it can be statistically demonstrated that cattle bring a negative income, and by how much. But we cannot skip over seeds; these are consumed in the production and must be allowed for. To make a proper calculation would require a knowledge of the seed-requirements of every crop; even these vary with the nature of the soil and the amount of moisture available. But we can make rough calculations. Mr. Dubey, in his article on the "Indian Food Problem,"[1] estimates the normal seed requirements for food grains in British India to be about 2.2 million tons.[2] To this we add .4 million tons for the Native States, because their area under grain cultivation is one-fifth of that in British India. This amounts to 2.6 million tons, which, at the average figures of Rs. 150 per ton, means a cost of Rs. 39 crores on seeds for food grains. Now as food grains constitute two-thirds of the total agricultural production, we add on the same proportion Rs. 19 crores for seed requirements for other food crops and all the non-food crops. Therefore the total cost on account of seed is about Rs. 58 crores for 1921-2. This must be deducted in order to arrive at the net agricultural income. Similar calculations for other periods give us Rs. 20, 35 and 25 crores.

The figures of our agricultural produce therefore stand as follows:—

	Pre-war Average.	War and Post-war Average.	Whole Period Average.	1921-22
Grosss agricultural production ..	1014·8	1686·5	1257·1	2155·8
Deduct for seeds ..	20·0	35·0	25·0	58·0
Net Agricultural production ..	994·8	1651·5	1232·1	2097·8

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[1] Indian Journal of Economics, Vol. III, p. 103.

[2] The estimate is based on seed requirements of the different crops as ascertained by Dr. Mann, Mr. Mookerji, and others.

Therefore, the net wealth in Part II will be:

PERIODS.	Net Agricultural Production.	Forest and Fisheries.	Total.
	(Figures in Crores of Rs.)		
Pre-war period average	994·8	11·2	1006
War and Post war period average ...	1651·5	22·5	1674
Whole period average, 1900-22 ...	1232·1	15·9	1248
Year 1921-22	2097·8	31·2	2129

5. **Agricultural Improvement.**—Great as our agricultural wealth is it can be made greater still by improvement. That Indian agriculture is primitive or backward is denied by so eminent an authority as Dr. Voelcker; but there never are any limits to improvement, and Dr. Voelcker's own book is styled **Improvement of Indian Agriculture**. It is not intended to discuss the question of agricultural improvement here, for it will be quite out of the province of this work. But as concluding our investigation of the agricultural wealth we may mention some points on how that wealth may be increased, which points, however, should form the very barest headlines of any book on the subject. Agricultural wealth may be increased in three ways: (A) by improving the methods and the wherewithals of cultivation, (B) by bettering the conditions of the cultivators, and (C) by improving the organisation for the sale of the produce.

The first problem involves a consideration of the supply of seeds, clean and heavy-yielding; the use of new implements and machinery (like iron ploughs and tractors); the supply of abundant and unadulterated manure, and the prevention of its wastage; fencing of fields; propaganda against plant diseases and pests; new and scientific modes of cultivation, demonstration and experiments, dissemination of literature on these subjects; investigation into water resources, and into the water requirements of the different crops with a view to an economical use of water; irrigation facilities; drainage, and eradication of weeds; improvement of the species and types of plants cultivated by varietal selection and so forth; co-ordination of efforts through the agency of the Agricultural Departments; etc.

The second problem will touch the questions of alleviating agricultural indebtedness, and financing the cultivators by co-operative credit, loans, grants, etc., education of the cultivators; introduction of subsidiary cottage industries; improvement of cattle and prevention of high mortality among them; cattle insurance; famine insurance; enlightening the burden of taxation; etc.

The last problem will embrace such questions as storage of grain (in elevators etc.); cheap and rapid transport facilities, providing markets for the produce, and opening up new markets; export and import duties, and embargoes, and all allied topics.

PART III

NON—AGRICULTURAL SECTION

CHAPTER I

Industry and Commerce—General Discussion

1. **Survey of India's principal manufacturing industries.**—The word "Industry" includes, or should include, in its denotation the agricultural industry as well, but it is often erroneously used to apply to the manufacturing industries only.

The principal non-agricultural industries in India are the textile industries, the leather industry, the engineering industries, the Forest industries, and the fishing industry. The last two having much affinity with agriculture have been treated in part II. The mineral industry will be treated in Chapter III.

Principal Industrial Establishments.—The following table shows the number of the principal industrial establishments in India, in the year 1921, together with the number of operatives employed in them [1];—

Kinds of Establishments.	Number.	Persons Thousand.	Number.	Persons. Thousand.
1. Textiles	..	..	545	654
Cotton Mills	281	346·7		
Jute „	82	286·9		
Woolen „	10	5·6		
Silk „	11	1·9		
Cotton spinning and weaving establishments not classed as mills	118	5·7		
Woolen carpet weaving establishments	21	3·5		
2. Minerals	..	..	226	74·6
Iron and Brass foundries ...	101	21·6		
Iron and Steel producing work ...	1	25·7		
Mica works	49	4·4		
Petroleum refineries	11	13·1	[*Table continued*	

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[1] Table adapted from pp. vii & ix of **Large Industrial Establishments in India,** 6th, issue 1923. It may be noted that this publication reckons in a few factories and "works" as mills, which are however not large enough to enter into the **Statistics of British India,** Vol. I (Commercial). There is therefore always a slight discrepancy in the figures of these two publications.

[*Table continued*]

Kinds of Establishments.	Number.	Persons. Thousand.	Number.	Persons. Thousand.
3. Transport	..	..	154	189·9
Dockyards	16	25·2		
Railway workshops and factories	119	149·1		
Shipbuilding and Engineering works	9	11·6		
4. Food, drink, tobacco			1528	115·2
Tobacco Factories	34	5·6		
Rice Mills	921	61		
Sugar Factories	71	13·4		
5. Chemicals, dyes, etc.			625	41
Dye-works	26	4·1		
Lac Factories	151	9·3		
Oil Mills	225	13·3		
6. Paper & Printing			240	42·3
Paper Mills	9	6·3		
Printing presses	229	35·8		
7. Processes relating to wood, stone and glass			990	116·1
Tile and brick factories (& Surkhi Mills)	467	51·2		
Sawmills	181	18·2		
8. Processes connected with skins & hides			182	16·2
Leather works	30	7·1		
Tanneries	146	8·6		
9. Miscellaneous			3029	310·3
Cotton ginning, cleaning, & pressing mills	2043	144·9		
Jute presses	332	37·6		
Engineering workshops	222	41·1		
Grand Total			7514	1559·9

It is not intended to go over every one of the foregoing items however briefly. But we must make some remarks about two of our premier manufacturing industries: the cotton and the jute.

Cotton.—Cotton industry in India really began with the founding of the first mill in Bombay in 1856. The progress thereafter was rapid, and new mills were springing up almost every year, until there were 269 mills in 1917-8. Thereafter there has been a small decline. The industry is confined principally, but not extensively, to the Bombay Presidency. The number of spindles has remained almost stationary for the last seven years; but the number of looms is still on the increase, which shows that more attention is being paid to turning out woven goods than to spinning yarn. The industry prospered very greatly during the War, and enormous profits were earned. In 1922, however, there came a setback, and profits sank by more than 50 per cent. of those of 1921; from 15.39 crores to 7.27 crores. Mr. J. A. Wadia predicts[1] that the profits for the year 1923 will be "anything between one-third and one-fourth of the profits of the last year." The said gentleman predicts a distinctly gloomy outlook. However this may turn out, one thing is certain that the cotton industry cannot expect to earn the same high profits in normal years that it did in years of exceptional demand caused by the War and by the trade boom immediately on its cessation. Although the demand to-day has fallen off considerably owing to the general trade depression and unsettled conditions in Europe, there is every likelihood of its revival upto the pre-war standard. It will be futile to compare the profits of normal years with those of exceptionally favourable ones, and then to bemoan retrogression. The real progress of the cotton industry during the last 22 years may be seen from the following table, which has been taken from the **Report of the Bombay Millowners' Association**, for 1922 (pp. 5-6) :—

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[1] In an article in The Times of India, September 3, 1923.

Year.	Number of				Authorized Capital. 1		Cotton Consumption.	
	Mills	Spindles	Looms	Em-ployees	Rs. *plus* £.		Cwts.	Bales of 392 lbs
	(Figures in thousands)				(Figures in Lakhs.)			
1900—01	193	5006	41	172	1580	6	47	13
1901—02	192	5006	42	181	1601	6	61	17
1902—03	192	5043	44	181	1657	6	60	17
1903—04	191	5118	45	184	1548	10	61	17
1904—05	197	5163	50	195	1597	10	65	18
1905—06	217	5279	52	208	1559	10	70	20
1906—07	224	5333	58	205	1727	10	69	90
1907—08	241	5756	67	221	1836	9	69	90
1908—09	259	6053	76	236	1964	6	73	21
1909—10	263	6145	82	233	2019	6	67	90
1910—11	263	6357	85	230	2141	6	66	19
1911—12	268	6463	88	243	2195	6	71	20
1912—13	272	6596	94	253	2232	6	73	20
1913—14	271	6778	104	260	2150	6	75	21
1914—15	272	6848	108	265	2142	5	73	21
1915—16	266	6839	110	274	2198	5	76	21
1916—17	263	6738	114	276	2228	5	76	21
1917—18	262	6653	116	282	2388	5	72	20
1918—19	258	6689	118	293	2769	3	71	20
1919—20	253	6763	119	311	3835	3	68	19
1920—21	257	6870	123	332	..	..	74	21
1921—22	258	7331	134	343	..	..	77	22

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1 These figures are taken from the **Statistics of British India** Vol. I (Commercial) for 1919-20, and stand for a few more or a few less mills than those given in column 1 above.

Jute.—The Jute Mill industry first started in Bengal in 1855, and there has since been a rapid increase, not so much in the number of mills itself, although that has also grown since 1905, as in the number of looms and spindles, as the following table will show. The industry is confined almost exclusively to Bengal, and is largely in the hands of Scotsmen from Dundee. The industry enjoyed almost uninterrupted prosperity until 1921, when owing to an enormous falling-off of demand and the accumulation of large stocks in the godowns, the industry has received a serious set-back. All the mills were working for only four days in the week.

Year.	Number of				Authorised Capital.		Consumption of raw jute.	
	Mills.	Looms.	Spindles.	Employees	Rs.	*plus* £.	Lakhs of Bales.	Thousand Tons.
	(Figures in thousands).				Lakhs	Lakhs		
1900—1	36	15	317	111	...	..	...	500
1901—2	36	16	331	114	...	...	...	520
1902—3	38	17	352	118	...	...	...	550
1903—4	38	18	376	123	403	22	...	586
1904—5	38	19	409	133	466	22	...	620
1905—6	39	21	453	144	506	24	40	720
1906—7	44	25	520	166	541	26	34	630
1907—8	54	27	562	187	618	27	37	670
1908—9	56	29	607	192	675	28	36	670
1909—10	60	31	645	204	714	28	43	820
1910—11	58	33	682	216	713	28	38	...
1911—12	59	32	677	201	734	28	45	...
1912—13	61	34	708	204	768	26	46	...
1913—14	64	36	744	216	801	30	45	...
1914—15	70	38	795	238	868	27	49	...
1915—16	70	39	812	254	871	26	58	...
1916—17	74	39	824	262	1074	21	57	...
1917—18	76	40	834	266	1107	21	54	...
1918—19	76	40	839	275	1156	21	51	...
1919—20	76	41	856	280	1214	23	52	...
1920—21	77	41	869	288	1550(?)	25(?)	56	...
1921—22	...	...	...	...	...	...	44	...

Note.—The table is compiled from the (Commercial) **Statistics of British India, Vol. I.** for 1919-20. The figures of 1920-21 are taken from the **Times of India Year Book**; the figures of consumption from table No. 30 **Review of the Trade of India in 1921-2.**

Other manufacturing industries:

The other industries are not of much importance. There are about ten woollen mills in India, five of which have an authorized capital of 2.8 crores. There are also many carpet and shawl weaving establishments, principally in Kashmir. The only iron and steel company of importance is the Tata Iron and Steel Company at Jamshedpur. There are 101 iron and brass foundries mainly in Bombay city, and 49 mica splitting works nearly all at Hazaribagh in Behar. On the engineering side, there are 222 engineering workshops and 149 more for railways.

2. **Whether profits from commerce ought to be included in an estimate of wealth.**—The question whether profits from commercial and transport enterprises should or should not be included in an estimate of a country's wealth is a vexed one. It will be remembered that we are measuring India's annual wealth by its production. And it is clear that commerce and transport by themselves do not create or produce any commodities. But here we must bear in mind that there is a difference between computing the production **quantitatively,** and computing its **value.** We cannot add up the production of such heterogeneous substances like cloth, grain, coal etc. Money-value is the only thing which affords a common measure for them all. And hence it is that computations are made in money-values.

But money-values to whom: to the producer or to the consumer? It is clear that there will be some difference between the two sets of values. In computing agricultural wealth we have taken the average of wholesale prices all along, and not the retail prices; of course, we could not have taken retail prices for the whole of the production, as a very large portion forms the consumption of producers themselves and is not the subject of exchange. Retail prices are just about what the consumers pay, but wholesale prices are not what the producers get. If the average wholesale price of a ton of rice is Rs. 180 the producer does not get all the Rs. 180; some part of it goes to the trader and perhaps also to the transport entrepreneurs. If, therefore, we value the whole production at wholesale prices, a large part of the profits of traders and carriers is also included in the total valuation. The question of inclusion or non-inclusion touches only the remaining small part of the profits of commercial and transport enterprises.

It is often argued that these profits are really no accretions to wealth, but are a toll on the community. In its naive form this proposition has much semblance of truth in it, for the middlemen's profits are generally the expenditure of consumers. And it will be preposterous to imagine a country's wealth increasing by the mere multiplicity of middlemen, while the underlying idea of all our present day co-operative organizations is to reduce cost by their elimination!

But we must be careful how we apply this proposition. What we have counted is not the expenditure of consumers, and we have therefore no ground to imagine that we have already counted in the whole of middlemen's profits and that we ought not to "count them twice." As a mater of fact, what we have done is only to evaluate production at a rate which prevails, on an average, among wholesale dealers. The profits of small traders are really left out of the reckoning altogether.

The question now arises whether, as a matter of principle, we should value that part of our production which forms the object of retail-trading, at the price which it is reasonable to believe must have been paid for it by the consumers ultimately. In other words, should we now reckon in the profits of small traders? In Chapter IV of Part I we have argued that the utilities created by people engaged in commercial and transport work are really wealth utilities; that they embody in the commodity the quality of being in that place where it is usefully required; a very useful property which results in that commodity fetching a higher money-value or price. [1] The labour, therefore, of the transport worker or of the trader is analogous to that of the agriculturist and the other industrial workers; and not to that for instance, of the soldier or the lawyer. Hence no objection can arise on the score of their labour being not creative of wealth-utilities.

Moreover, our reckoning the value of production by means of wholesale prices seems to draw an arbitrary line between wholesale dealers and some carriers on the one hand and retail dealers and other carriers on the other. For such a course there seems to be no warrant. **Ceteris paribus,** the profits of the retail merchant, it may be argued, ought to find an expression in the value of the nation's produce as well as those of the wholesale one.

One objection can be immediately raised: the commercial people do not increase the real wealth; a ton of wheat produced on my farm in Khandwa will not become a ton and a half merely because it ultimately happens to be distributed among twenty-seven families in Bombay! Theoretically, the objection is superficial: no one denies that a ton will remain a ton for all that; but the point is that the utility which that ton had in Khandwa (represented, say, by Rs. 120) has been very much increased by its having been brought to Bombay and distributed among the families. If the components now sell for Rs. 180, then the G. I. P. Ry. Co., and retail traders have together earned Rs. 60. But these sixty rupees denote a **real accretion to the utility of the produce.** The real question at issue will not have arisen if we had measured the wealth in quantity figures only. We have insisted before on the inherent superiority of the mere **quantity** figures over the figures of **value** of production, and we should like to emphasize this point once more. But since we have to do with **money** values of utilities embodied in material production the objection raised here can have theoretically no bearing.

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[1] cf. Mill, Principles, p. 47

Why then have we not used retail prices? The answer is that the whole produce is not exchanged at this rate. Mr. K. L. Datta says [1], that two-thirds of the supply of food grains is consumed by the agriculturists and one-third is sold. The wholesale prices are certainly much better indices of the value of the whole of our produce. And for a good reason: Wholesale prices are determined by wider forces, sometimes even by world demand, and are ultimately correlated to the cost of production; these prices include also all remuneration that is to be paid for commercial and transport undertakings which are instrumental in making the whole world one market. Retail prices are only the outcome of peculiar and local exigencies. They are no standard of value. And the apprehension that the utilities created by retail traders are not reflected in wholesale prices may be more than offset by the fact that the value of consumption of their own produce to the producers themselves is much less than what the wholesale prices reflect. In the case of the agricultural food crops, therefore, wholesale prices give a true index of the value to consumers; they strike the **via media** between the values to the consumers pure and simple, and to the consumers who are also the producers. In the case of the chief commercial crops, cotton, jute, tea etc. which form little or no part of the consumption of producers, we have generally used the prices prevailing at the ports or the chief industrial centres, or the average declared values on export—which include the profits of the producers and a whole series of intermediaries: the contractors, the railwaymen, the brokers, the dealers, the export merchants etc.

Therefore, though there is theoretically no objection to adding in the profit of small traders, for all practical purposes the wholesale price ratios we have adopted may be considered to leave nothing more to be added up. [2]

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[1] Report on the Enquiry into the Rise of Prices in India.

[2] Even assuming that the profits of small traders must be added in, that item would present formidable difficulties in calculating it. Firstly, not the whole of these profits are derived from the sale of commodities produced in India; some portion of it is also obtained from the sale of imported goods. Secondly, an indefinite and uncertain portion of the profits already finds an expression in wholesale prices. We are therefore not at all sure what percentage of these profits would remain to be added in. We however venture to suggest the following. Assume that a trader in a village is twice better off than the peasant, and one in a town or city twice better off than the ordinary factory worker, that there is one average trader in each village, 20 in each town, and 200 in each city. From our calculations of wealth we deduce that the average income of the village trader will be Rs. 32, of the trader in a town, Rs. 60, and the trader in a city, about Rs. 100. Now there are in India 720,000 villages, 2100 towns, and 30 cities. This will give us a total figure of Rs. 31 crores. If one sixth of the profits come from sale of imported goods we have only Rs. 26 crores, on this crude calculation, as the profits of small traders, which may be added into the total wealth.

CHAPTER II

India's "Industrial" Wealth—The Principal Manufacturing Industries

1. **Textiles.**—The most important of our manufacturing industries are the textile ones. We shall begin with cotton.

Cotton.—The following table gives the amount of yarns and woven-goods produced in India and their estimated value:—

Year.	Production.			Value of Production.		Value of Consumption		Net accretion to value.
	Yarns. Pounds	Woven goods		Yarns.	Woven. goods.	of yarn in Woven goods.	of raw cotton.	
		Pounds	Yards.					
	(Millions)			(Crores of rupees)		(Crores of rupees)		Crores of Rs.
1900—01	352	98	341					
1901—01	572	119	409					
1902—03	575	122	406					
1903—04	578	138	460					
1904—05	578	158	549					
1905—06	680	163	564					
1906—07	653	165	708					
1907—08	638	189	808					
1908—09	657	192	824					
1909—10	627	228	963					
1910—11	609	245	1062					
1911—12	625	266	1136					
1912—13	688	285	1220					
1913—14	682	274	1164					
Average 1900—14	**620**	**190**	**752**	**23**	**13**	**7**	**20**	—
1914—15	651	277	1135					
1915—16	722	352	1441					
1916—17	681	377	1578					
1917—18	660	381	1614		27			
1918—19	615	349	1450		44			
1919—20	635	383	1640		57			
1920—21	659	367	1580		62			
1921—22	692	403	1731	65	60	32	40	53
Average 1914—22	**670**	**360**	**1520**	**50**	**41**	24	**38**	**29**
General average 1900—22	**640**	**250**	**1034**	**36**	**22**	14	**2**	**14**

The figures are compiled from the Report of the Bombay Millowners' Association (for 1922, p. 6 and p. 449) and the Statistics of British India Vol. I (Commercial) for 1919-20 p.59. With regard to the value of the yarn production, and in the pre-war years that also of the production of woven goods, as neither of these two publications give the required data, we have multiplied the production figures by the average of the "average declared values on export for the years comprised in the periods.[1] **(Review of the Trade of India 1921-2 Table 48 p. 69.)**

The above table reveals the increasing production of woven goods, which is very gratifying. At present, the surplus that is left after meeting our home demands is exported to Ceylon, East Africa, Natal, the Straits Settlements, Siam, China etc.

The gross value of yarn and cloth produced in 1921-2 comes to Rs. 125 crores; but from this we must deduct for raw cotton consumed; (because we have already valued the whole of the production of cotton in part II) and we have also to deduct for yarn which is consumed in the production of the cloth. This gives us 53 crores of rupees worth of cotton manufactures. In the same year our exports amounted to Rs. 15½ crores. Similar calculations for the average of pre-war years (1900-13), war and post-war years 1914-22 and the general average for the whole period 1900-22, give us Rs. 9, 29 and 14 crores respectively.

Jute:—The figures of the production of jute manufactures are not obtainable.[2] We, however, have detailed statements about exports. These are Rs. 20 crores for pre-war years (1909-13), Rs. 40 crores for the war years (1914-18), Rs. 50, 53, and 30 crores for the years 1919-20, 1920-21, and 1921-22 respectively.[3] To this we have to add for figures of home consumption; and from the whole, to deduct for raw material entering into manufactures which has already been counted over. The last item is about 26 crores of Rupees for 1921-2. So that if we assume a home consumption of jute manufactures to be equal to one-fourth of the exports,[4] and the value of raw material to be

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[1] In the case of woven goods only 4/5 ths of the unit value of export, *i. e.*, 4/5 ths of 3½, 5½, and 4¼ annas per yard for the first three periods of our inquiry; yarn is valued at 6, 12, 9 and 15 annas per lb. for our four periods respectively.

[2] The Secretary of the Jute Mills Association wrote to us to say that such statistics were not compiled by the Association.

[3] **Review of the Trade of India in 1921-22,** Table 7, p. 48.

[4] *Vide* **Investor's Indian Year Book** 1922, pp. 154-6.

This gives some figures of:

The value of Jute manufactures, exported from Calcutta to Burma and other coast ports of India, together with the value of bags and cloth delivered from the Calcutta Mills for local and up-country markets:—

1913—14	Rs.	5,61	lakhs	*i. e.* 1/5	of exports of Jute manufactures	to foreign	countries.
1918—19	„	8,69	„	*i. e.* 1/6	„	„	„
1919—20	„	7,66	„	*i. e.* 1/7	„	„	„
1920—21	„	8,39	„	*i. e.* 1/6	„	„	„
1921—22	„	6,03	„	*i. e.* 1/5	„	„	„

But the above figures do not include export of extra-factory manufactures, nor of manufactures by Mills outside Calcutta, nor of coasting exports from ports other than Calcutta (e. g., Chittagong and Madras ports.) Hence our assumption of one-fourth.

about three-fourths the exports, we shall then have to add on balance half the value of export as "the net accretions to value by manufacture." This calculation is certainly risky, but it may be allowed to pass for want of definite figures. Dividing the export figures by two and rearranging them to suit our four periods, we obtain the net value of jute manufactures to be, on an average for the

Periods	Net Value of Jute Manufactures	Estimated Manufactures			
		oth		Bags	
		Hessians.	Sackings	Hessians.	Sackings
	(Crores of Rupees)	(Million Yards)		(Million Bags)	
Pre-War period	10	1200		420	
War and Post War period ...	21	1500	45	325	400
Whole period (1900-22) ...	14	1300		550	
Year 1921-22	15	1300	30	120	360

Wool.—In Part II, we have not counted in raw wool as one of the items of income from animals. We are therefore free to calculate the value of the whole of woollen manufactures without deducting for raw material. The following figures are calculated from the (Commercial) **Statistics of British India** Vol. I 1919-20 and from the **Review of the Trade of India in 1921-2.** p. 47.

Average for the	Production.		Raw wool exported.		Total wool & woollengoods	Woollen rugs Carpets, etc. exported.
	Million lbs.	Crores of Rs.	Million lbs.	Crores of Rs.	Crores of Rs.	
Pre-War period ...	4·2	·45	54	2·6	3·1	Rs. 25 lakhs
War & Post-war period ...	10	1·7	40	3·5	5·2	„ 41 „
Whole period 1900-22 ...	6	·9	47	2·9	3·8	„ 31 „
Year 1921-22	..	1·6 (for 1919-20)	32	2·5	4·1	„ 70 „

Silk:—The foregoing remarks about wool apply also to silk. But no figures of silk production are compiled. The export figures taken from the **Review of the Trade of India in 1921-22,** (p. 47), are :

	Pre-war average	War average	1919-20	1920-21	1921-22
	(In Lakhs of rupees)				
Silk raw	42	39	41	33	26
Silk manufactures ..	7	6	5	5	3
Total ..	49	45	46	38	29

As there are very few silk factories, and even these are very small ones, we can safely say that the total value of silk manufactured in India and raw silk exported does not exceed 60 lakhs in any year. We shall add in Rs. 60, 50, and 40 lakhs for our periods.

2. **Food and drink.**—We have already evaluated almost all commodities which can serve as food or drink. Here we are concerned with the **net** value of the produce of breweries, distilleries, flour mills, rice mills, ice and aerated water factories, sugar factories, tobacco factories, dairy farms etc. The net value of the produce cannot be very much, as these establishments are few and small. But these values must be reckoned in, as these factories, breweries etc. render commodities immediately consumable, and so are a final and necessary part in the long process of production. The "added values" we have no means of determining, except for refined sugar, cigar manufactures, and beer.

Refined sugar we have estimated at 123,000 tons in 1921-2 (vide Part II, Ch. 3 ante). This at Rs. 26 per maund,[1] gives us Rs. 8.7 crores.

Manufactured tobacco, i.e. cigars, cigarettes etc., can be estimated from the export figures, which are between 10 and 17 lakhs. As the consumption of cheap cigarettes is increasing fast apace, we may safely make a conservative estimate of total manufactures to be about Rs. 2 crores (i.e. twenty times the exports). This—deducting half the value for raw material already counted in—gives us, for 1921-2, 1 crore of rupees.

The production (in gallons) of **beer** is given in the (Commercial) **Statistics of British India Vol. I** (1919-20, p. 52). The last figure reported is 6.6 million gallons in 1919-20. The value of this production, however, is not reported. If we take cost to be two rupees a gallon we shall get Rs. 136 lakhs. However, if we are to calculate the total value of the production of liquor which the country consumes the sum would be enormous. The Government gets about Rs. 20 crores annually [1] (from Excise), by way of receipts from license fee, duty and other items. Even if this charge work out as high as 50 per cent. of the value of production, [2] the latter would still amount to Rs. 40 crores. Deducting twice the value of imported liquor, which is between three and five crores, we get the value of the liquor, spirits and drug produced in India to be about 32 crores of rupees annually! [3]

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[1] Prices and Wages 37th issue, p. 6.

As for other items, we have already made some allowance for dairy produce in Part II, Ch. VI § 9. Flour and manufactures of flour, and aerated waters, we may put down at Rs. 10.3 crores at the maximum.

Thus we get the net value of food and drink manufactures to be:—

Refined Sugar	Rs. 8.7	crores
Tobacco manufactures	Rs. 1	,,
Spirit and liquor	Rs. 32	,,
Flour manufactures etc.	Rs. 10.3	,,
Total	Rs. 52.0	,, for 1921-2.

For the other periods we may assume Rs. 25, 41, and 31 crores.

3. **Other manufactures.—Leather.**—In Part II we have made some estimates of the value of raw hides and skins. It remains, however, to calculate the "added value" of leather manufactures. There are in India 146 tanneries and 30 leather works at the present time, but most of them are small ones, and are not worked by mechanical or electrical power. There are however innumerable local shoe-makers' shops all over India, and their output must also be reckoned in. Sir George Watt [4] considered that the home consumption of hides and skins was **as valuable as the exports**. That was in 1907. With the imposition of a 15 per cent. export duty on hides and skins since 1919, we are justified in considering the home consumption of the last few years to be **twice** as valuable. On this basis, we have calculated that Rs. 12 crores worth of hides and skins are used up in India in manufactures. If we take it that in the process of manufacture the value increases by one-half, then we ought to add in Rs. 6 crores for 1921-2 as the **net** value of leather manufactures

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[1] Rs. 19, crores about, in 1921-22.

[2] Sir Basil Blackett's recent budget speech confirms this percentage.

[3] Giffen gives the drink bill of the U. K. in 1903 at £ 85 million i.e., Rs. 127·5 crores. (*Vide* **Economic Inquiries and Studies,** Vol. II, No. 29.) At the present time the figure must be more than double.

It must be noted, by the way, that the 32 crores given above is only the value of the **production** of liquor and drugs in India. The "drink bill'', i.e., the total amount of money which the consumers spend on drink, would be much more than that. For the consumers will have to pay in the long run (1) not only this cost of production, but also (2) excise duties which are really shifted on to them, (3) profits of owners of liquor shops, and (4) the sale value of imported liquor. The last three items would make another 32 crores or thereabouts; so that the total money spent on drink in India is upwards of 60 crores annually!

[4] **Commercial Products of India**, p. 632.

including boots and shoes, saddlery and harness, travelling bags, and other leather goods. For the other periods, on a similar calculation, we get Rs. 5, 6, and 5½ crores. Of course, our exports of leather manufactures are negligible, and those figures cannot be used for any purpose.

Paper and Printing.—As regards the quantity and value of paper production, the (Commercial) **Statistics of British India**[1] give us full information. In the latest year reported (1919-20), 31,000 tons of paper of the value of Rs. 2.09 crores were produced. The average figure of pre-war years comes to Rs. 70 lakhs, and of war and post-war years to Rs. 170 lakhs. It is not possible to estimate the value of matter printed. There are 229 printing presses, including the newspaper presses. If each turns out on an average printed matter of the value of half a lakh of rupees per year, the total will come to Rs. 1.3 crores.

Dyes and Oils.—As we have already valued indigo and other dyeing substances we need only add the accretion to value brought about by the preparation process. But even this is negligible. So also as regards oils, we have valued the oilseeds and also most of the essential oils (under Forests). Hence nothing remains to be counted in here.

Chemicals and Drugs.—This item too we have almost counted in when valuing other drugs and medicines in the previous Part (Ch. IV). Excluding saltpetre, chemicals and chemical preparations are valued at between 4 and 7 lakhs in our export trade figures. Saltpetre is counted in along with Minerals in Ch. III **infra**.

Manufactures from wood, and of stone and glass.—There are quite a large number of tile and brick factories (467) and saw mills (161) in India; there are also 84 glass factories, and 71 quarries and stone and lime works. There are over and above these many small brick and tile works scattered all over the country, which must not be neglected. In the same section we must also count in pottery and cement works. The production must consequently be substantial. We cannot say how much that will be, for no data are available on which to proceed. In view of the large demand for these articles all throughout the year and all over the country, we may assume a monthly output worth Rs. 500 on an average in the tile and brick factories; Rs. 1,000 on an average in other works and quarries; and Rs. 1000 as the average **net** value of the output of saw mills; (—**net**, i.e., after deducting for value of unwrought wood which has already been counted under forests). On this calculation we shall get about Rs. one crore. Adding for cement, pottery, marble, slate etc., the total will be about four crores.

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[1] For 1919-20 p. 2.

4. **Power Supply.**—In this connection we ought to speak of coal, petroleum, kerosene etc., as well as gas and electric works. But the first three had better be treated in the next chapter on the mineral production of India.

Electric lighting has been introduced in almost all the chief cities of India; while the development of large Hydro-Electric Works for the supply of power to mills, factories, railways, etc., is also proceeding fast apace. The largest and most important Hydro-Electric Works are of course those of the Tata's in the Western Ghauts, but there are also excellent works on the Cauvery falls at Sivasamudrum in Mysore, and on the Jhelum falls at Baramulla in Kashmir. The first mentioned works (including the Andhra Valley Works) are capable of supplying Bombay with an energy of 50,000 horse power. But with the construction of new reservoirs at two other places and the duplication of the pipe lines at Khandala the supply will be almost trebled. The Cauvery Works are capable of supplying 25,000 H.P., and supply power to the Kolar gold fields.

The problem of evaluating the power supply from electricity generating works and the few gas works we have in India is, however, a difficult matter. For some part of the value of power has already entered into the value of goods it helped in manufacturing, e.g. woven goods of such of our cotton mills in Bombay which were supplied with electric power. And it will be remembered that in §1 above we have **not** deducted for power consumed. Consequently, we must be careful not to commit the fallacy of a "double counting"by reckoning in the value of the **whole** of the power supply.

A fairly tolerable plan would be to omit the value of power altogether, and to make no deductions for power consumed, from the value of all our manufactures. But this plan neglects the power used in our houses and shops and streets, and will not therefore be correct. To allow for this last we may put down a figure of Rs. 3 crores, obtained from a rough calculation that on an average Rs. 5000 worth of power is consumed daily in each of twenty chief cities. The figure, of course, is subject to a wide margin of error.

So far as the problem of power supply is concerned "no great difficulty appears to be experienced in any part of India in obtaining coal or some form of fuel at what may be deemed a reasonable cost for ordinary power purposes," says the Industrial Commission. [1] There are however some limitations to the supply of good coke producing coal, which is confined for the most part to the coalfields of Bengal and Bihar; consequently, our metallurgical industries are at present not so much developed or distributed throughout the country as they should be. Wood fuel can be obtained in sufficient quantities from our forests if properly exploited, but the forests are confined only to certain localities. Oil is not of much importance as a source of industrial power, but is used for motors and small engines. Even here the oil fields of Burma are being rapidly exhausted, and despite expensive prospecting operations no new fields have been discovered. On the other hand, the use of water power in generating electricity is a hopeful sign, and in the long run it may perhaps be profitable to bring electric energy to industrial centres even from very great distances where natural features make its generation possible.

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[1] Industrial Commission's Report, P. 64.

5. **Engineering Industries.**—Engineering industries are not of much importance in India. They have naturally sprung up in centres of great industrial and trade activity, like the ports of Bombay and Calcutta, with their numerous mills and factories and their busy traffic. These engineering firms mostly do repairing and other incidental work; and the actual output of new manufactured goods is little. In this class fall also the railway workshops which are numerous and have spread all over India.

The output from this source cannot be determined. We therefore propose to add in a sum of Rs. 5 crores on account of the output of engineering establishments, **and all the other miscellaneous industrial establishments** like match factories, rope works, other hemp and flax manufacturing works, arsenals, brush-works, umbrella factories, musical instruments factories, sports requisites, etc.

Summary

Items	Pre-war period	War & post-war period	Whole period	Year 1921-22.
		(In Crores of Rupees.)		
Cotton manufactures	9	29	18	53
Jute „	10	21	14	15
Wool & Woollen „	3·1	5·2	3·8	4·1
Silk & Silk „	·6	·5	·5	·4
Food & Drink	25	41	31	52
Leather „	5	6	5·3	6
Paper & Printing	1·4	2·7	1·8	3·4
Manufactures from wood, stone, glass, and of cement.	2	3·5	2·4	4·1
Power Supply	1	1·5	1·2	3
Engineering and miscellaneous industries.	2·5	4·0	3·0	5

CHAPTER III

The Mineral Wealth of India[1]

1. **Metalliferous Metals.**—In the matter of minerals India has not been blessed with quite a plentiful supply. Of the precious metals, gold it is true is obtained in some quantities (between five and six hundred thousand ounces) from the Kolar gold fields in Mysore, in small quantities from a couple of other places in Hyderabad and Madras, from alluvial gold-washings in hill streams in Northern India, Burma, and in other places, and from dredging operations for alluvial gold in the rivers of Burma. But silver, though not absent, cannot be worked on a commercial basis, because of the small quantities in which alone it can be obtained (in association with lead and zinc) in South Burma and the Shan States.

As to the other "industrial" minerals, iron-ores of rich quality are very extensively distributed all over India; but in no place are they so abundant as near Jamshedpur, and along the borderline between the Central Provinces and Orissa. It is said that iron-smelting in India is a very old industry, and that it dates even from 1000 B. C. But importations of iron and steel-goods have killed the small local furnaces. Several attempts were made from time to time in the last century to manufacture bar iron; but either through sheer economic causes, or lack of fuel supplies, or (as some say) governmental apathy, these attempts failed, only one company managing to pull through and that too at a loss, viz., the Bengal Iron and Steel Co. Recently, the concern has been put on a paying basis. The chief enterprise, however, is that of the Tata Iron and Steel Company founded in 1907 with a capital of over 3 crores. The company is working on a very large scale; it has its own iron mines in several places chiefly around its headquarters Jamshedpur, its own limestone quarries, magnesite deposits, and coal mines in the Jharia fields and elsewhere. It is fortunate that iron ore and coal deposits are found here in such ideal contiguity. The company has about six blast furnaces with an output of over 700 tons of iron per day; it has over 300 coke ovens, and other plant for the recovery of by-products; about fourteen different kinds of furnaces for steel making, and other mills for the manufacture of rails etc. An enormous amount of stimulus was given to the industry during the War, industries are at present not so much developed or distributed throughout the country as they should be. Wood fuel can be obtained in sufficient quantities from our forests if properly exploited, but the forests are confined only to certain localities. Oil is not of much importance as a source of industrial power, but is used for motors and small engines. Even here the oil fields of Burma are being rapidly exhausted, and despite expensive prospecting operations no new fields have been discovered. On the other hand, the use of water power in generating electricity is a hopeful sign, and in the long run it may perhaps be profitable to bring electric energy to industrial centres even from very great distances where natural features make its generation possible.

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[1] *Vide*, **Mineral Resources of India** by (Sir) T. H. Holland, late Director of the Geological Survey of India.

Copper also was formerly smelted in considerable quantities in Southern India, in Rajputana and along the Himalayas; but now-a-days very little copper is extracted. The large demands for the manufacture of utensils and other things are met almost wholly by imports of copper from abroad. The only copper mine of importance in India is in Singhbhum in Chota Nagpur; smaller lodes have been worked also at Hazaribag in Bihar. Recently, the high prices of copper have led people to direct attention again to this metal and smelting works of modern design have started operations at Singhbhum.

As to other metalliferous minerals there are a host of them, but excepting a couple of them they are not found in large quantities. We have lead, zinc, nickel, tin, aluminium, antimony, manganese, tungsten, molybdenum, etc. Of these, wolframite tungsten has recently been extracted in very large quantities, principally in Karenni and South Burma, also to some extent in the Nagpur district. For this metal there is a great demand owing to its being indispensable as an ingredient of the steel used for mechanical engineering purposes. Manganese ore is also abundantly extracted; though attention to this metal was not practically directed till about 1892, the deposits have since then been so successfully exploited that India now stands first among the manganese producing countries of the world. The deposits are situated principally in the following districts: Vizagapatam (Madras), Balaghat, Nagpur, Bhandra and Chhindwara (C.P.), the Panch Mahals (Bombay), Jhabna State (C.I.) and Shimoga (Mysore). Nearly the whole of this metal used to be exported raw; but since the outbreak of the War the two Iron and Steel Companies have been taking considerable quantities for the manufacture of ferro-manganese.

Lead and Zinc are not of any importance in India. Small quantities are obtained from slags produced by the Chinese in the Northern Shan States. Tin is also to be found in small quantities in Karenni, Tavoy and Mergui (all in Burma).

2. **Carbon and its compounds.**—The second group of minerals consists of carboniferous materials, including amber, graphite, coal and petroleum. Amber and graphite are produced in very small quantities, the former in Upper Burma, and the latter in Travancore.

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[1] The general opinion is that the Tata Iron and Steel Co. would do well to effect retrenchment in its expenditure, otherwise the protection recently granted will be unavailing.

Coal is certainly the most important of minerals in India. The total production is continuously increasing, from 2 millon tons in 1890 to about 20 millions to-day. The total value of the output was second to that of gold till about 1907; since then it has increased so much that now it is easily the first mineral in India.

Most of the coal is obtained from the Gondwana formation lying between the oldest rocks of the Deccan tableland and the alluvial regions of Bengal. The Gondwana fields yield about 95 per cent. of India's coal, the remainder is obtained from the Tertiary rocks of the Extra-Peninsular region, notably from Assam. The Gondwana system comprises parts of Bengal, Bihar and Orissa, the Central Provinces and the Hyderabad State. The most famous of these coal fields run east to west along the Damuda Valley and contain the Raniganj, Bankura, Birbhum, Bokaro, Giridih, Jharria, Daltonganj, and other fields. Another line of coal seams is along the Satpura Range, containing the Mohpani and the Pench Valley fields. A third clearly defined belt of coal-fields is along the Godaveri valley, containing the Warora, Bellarpur and Singareni fields. The last belt of coalfields is along the Mahanadi river, and contains the famous Umaria and Talcher fields.

The present total output of coal is about 20 million tons. It was estimated in 1916[1] that of this, 33 per cent. is consumed by railways, 16 per cent. goes for bunkers, 5½ per cent. for jute mills and the same amount for cotton mills, 5 per cent. for iron and brass foundries and engineering workshops, 3½ per cent. for inland steamers, 20 per cent. goes for small industries and for domestic consumption, while no less than 12 per cent. is consumed at the collieries or wasted. India's output of coal is still 1/30 that the United States, and 1/11 that of the United Kingdom. The average price of a ton of coal in Calcutta in 1921-2 is given[2] to be Rs. 17 for Desharghur and Rs. 13 for Jherria coal, but the average value at the pit's mouth is only about Rs. 5. Owing to the great increase in our output of coal, the imports have greatly declined being only about 39,000 tons in 1919-20 (whereas they used to be ten times as much before) and valued at Rs. 12 lakhs. The figures for 1920-1 are somewhat higher, being 86,000 tons and Rs. 30 lakhs. On the other hand, we also exported over a million tons valued at Rs. 1½ crores in 1920-1, to Ceylon, the Straits Settlements and other countries; though generally our exports are about 600,000 tons on an average.

The Petroleum resources of India have also been very considerably developed in the last few years. In the rocks of the Iranian system on the West, some oil wells have been working near Attock, Rawalpindi and other places; but the principal sources of petroleum are the rocks of the Arakan system on the east. This includes Assam and Burma. The first boring operations in Burma were made only about 35 years ago; but the development has been amazingly rapid. The total production of petroleum in 1902 was only 56 million gallons, in 1920 the figure stood at 293 million gallons valued Rs. 7.9 crores. The most productive oilfields are the Yenangyaung, Singbu and Yenangyat wells in the Irrawadi Valley in Burma. At present the oil is brought to Rangoon from the oilfields further north, by means of big steel pipes, over 200 miles long. Our present demands for kerosene oil are met mostly by the Burmese fields, to the extent of 103 million gallons in 1919.

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[1] Report of the Industrial Commission, p. 18.

[2] Prices and Wages, 37th issue p. 43.

3. **Other minerals.**—Under this group fall a very large number of minerals, like mica, sulphur, phosphates, salt and saltpetre, and also clays and other materials like limes, cements, kankar, slate, and building stones. The most important are of course mica, salt and saltpetre.

Of mica India has for many years been the leading producer, supplying about half the world's demand. Before the War as much as 3/5ths of the world's production used to come from India, but the phenomenal development of mica mining in Brazil has reduced the proportion of India, and also cut off for the most part her American markets. The mica produced in India is of a variety technically known as "muscovite." It occurs in two well-defined regions: a belt across the Gaya, Hazaribag, and Monghyr districts of Bihar, and along the Nellore District in Madras. In addition, Ajmere, Udaipur, Mysore and Orissa have small workings. The Bihar micas are reputed to be the finest in the world. A very large portion mined here is exported: 71,000 cwts. valued at Rs. 1 crore in 1920-1, and 27,000 tons valued at Rs. 63 lakhs in 1921-2.

As for salt, over 65 per cent. is obtained from sea water, about 25 per cent. from subsoil brine and salt lakes (e.g., lake Sambhar in Rajputana), and 10 per cent. from rock-salt beds (as in the Jhelum and Shahpur districts across the Indus in the Punjab, and in Kohat in the N. W. Frontier Province).

The most important production of saltpetre is in the three provinces of Bihar, the United Provinces and the Punjab. The chief place where saltpetre is refined is in Farrukhabad in the U.P. Upto about 1860, India had a monopoly in the saltpetre trade; but since then the artificial manufactures from potash in Germany and Nitrates in South America have almost killed the Indian trade.

4. **Gems.**—There are many kinds of gems to be found in India, e.g., agates, beryls, diamonds, jadeites, rubies, sapphires, tourmalines, etc. "Notwithstanding the reputation (stretching back even as far as Ptolemy in the European, and further in the Hindu classics) which India has had as a diamond-producing country, the output of to-day is very small and comparatively unimportant."[1] The three chief regions where stones have been found are the Cuddapah, Bellary, Kurnool, Godaveri and Kistna districts of Madras, in the Mahanadi valley (Sambalpur and Chanda districts), and in the Vindhyian system (at Panna in Central India).

Ruby is found in Upper Burma, and Sapphire in Kashmir. The other stones are unimportant.

5. **Value of mineral products.**—Fortunately, complete statistics of all the minerals of India, their quantity and value, are recorded in the **Statistics of British India.** Vol. I (Commercial). Figures of output are also given in the several issues of the **Report of the Chief Inspector of Mines in India,** but the returns for the Native States are not given in the latter publication. The following table has been compiled from the first-mentioned publication, 11th issue (1922), pp. 83 to 96. The figures therein extend only upto 1919. But the figures of the next year (1920) are also given in the new **Statistical Abstract of British India** (First issue, 1923,) which combines within one volume the necessary figures of all the five volumes of the old series of **Statistics of British India.** We have accordingly taken the 1920 figures from this publication, and used them for the year 1921-2, the latest year of our inquiry.

We need to draw attention to the figures for petroleum. Comparing the last several years' figures given in the (Commercial) **Statistics of British India** with those given in the new **Statistical Abstract,** we find that there is an enormous difference in the figures for **value,** though the figures of **quantity** of oil obtained are identical. We are quite unable to explain why the latter publication gives almost three times as much value to the yield as the former one gives. We have, however, followed the latter publication on the principle that the latest available figures have to be followed, unless there is reason to the contrary; also because the **Indian Year Book 1923** confirms these figures.

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[1] **Holland, Mineral Resources of India, p. 63.**

Quantity and Value of the Mineral Production of India

Minerals.	Unit of Quantity.	Pre-War average.		War and post-war average.		Whole period average.		Year 1921-22 (Figures for 1920).	
		Quantity.	Value. Rs. lakhs.	Quantity.	Value. Rs. lakhs.	Quantity.	Value. Rs. lakhs.	Quantity.	Value. Rs. lakhs.
Gold	Thousand Ozs.	580	330	590	340	583	333	499	273
Silver	” ”	74	1·4	1415	34	856	20	2906	84·3
Chromite	” Tons.	5	·9	25	4	15	2	26	8
Copper	”	4	1·0	11	2·4		1·8	28	4·2
Iron	” ”	150	2·7	450	5·7	240	3·6	558	6·7
Lead	” ”	8·0	18	15	55	11	38	23	97·6
Manganese ..	” ”	480	93	594	211	518	132	736	382
Platinum (*b*) ..	Ounces ..	(5)	(·04)	(13)	(·01)	..	..	..	..
Tin	Thousand Cwts.	2	1·4	21	12	8	5	66	26·6
Wolfram (Tungsten Ore) (*d*) ..	” Tons.	1·2	14	3·3	59	2·5	43	2·3	14
Zinc (*b*)	” ”	(3·8)	(·7)	(5)	(1·2)	..	..	..	..
Graphite	” ”	3·3	2·3	·3	·1	2·7	1·5	·1	·06
Coal	Million	10	338	18	721	13	453	17·9	930
Petroleum (*e*) ..	” Gallons.	154	91	287	462	194	215	293	795
Salt	” Tons.	1·2	66	1·5	143	1·3	89	1·6	144
Saltpetre	Thousand Cwts.	291	29	420	69	330	41	310	56
Magnesite.. ..	” Tons.	5	·2	11	1·3	7	·5	14	1·7
Mica	” Cwts.	32	10	42	18	35	13	47	23·5
Monazite	” Tons.	1	5	1·5	6·5	1·4	6	1·6	4·9
Jadestone (*a*) ..	” Cwts.	4	9	4	10	4	9	5·0	18
Diamonds (*c*) ..	Carats ..	200	·3	87	·5	160	·4	85	·4
Rubies, sapphires and spinels	Thousand Carats ..	260	11	214	7	250	10	155	6·2
Total ..			1025		2163		1417		2876

NOTES:—(*a*) Exports only.

(*b*) Items within brackets are averages for two or three years only, or even stand for a single year.

(*c*) 1919 was a record year for diamonds : 312 carats valued at over 2 lakhs.

(*d*) The highest figure is for 1918; 4½ thousand tons valued at over one crore.

(*e*) With regard to the value of petroleum, *vide* previous page.

CHAPTER IV

Other Items of Non-Agricultural wealth

1. **Handicrafts.**—The amount of income derived from handicrafts and cottage industries in India cannot be determined because the income is for the most part derived in very small and fragmentary portions, being immediately consumed by its producers. However, the extent of these operations may be gauged from the fact that in the matter of textiles alone as many as 750,000 bales of cotton and 500,000 bales of jute, each of 400 lbs., are estimated to be the extra-factory consumption. To be sure, infinitely little of this cotton and jute is used for purposes other than spinning or weaving into cloth or making into nets, ropes, mats and other things.

The principal domestic industries and handicrafts in India are hand-weaving, dyeing, calico-printing, metal-working, silk-weaving and sericulture, wood-carving, lacquer working, pottery, and other artistic industries like ivory-carving and inlaying, etc. The Industrial Commission observes that "the most striking features of the Indian industrial life is the vitality of the old domestic industries in spite of factory competition both Indian and foreign."[1] And again: "A general review of the evidence tendered to us, supplemented by numerous inspections in the towns and villages we have visited, confirms us in the conclusion that cottage industries are a very important feature of the industrial life of India; that they are by no means as primitive as they are depicted[2]; and that there is no ground for belief that they are generally in a decadent State." Such is the importance of cottage industries in India that it is stated that more people are engaged in them than in organized industries, and that the output is not inconsiderable compared to that of mills and factories.[3]

The most important of these industries is the hand-loom weaving. The yarn employed is now nearly all mill-made, for hand spinning has died out. "It is believed that between two and three million handlooms are at work in India and their annual gross earnings must amount to something like fifty crores of rupees."[3] It is therefore certainly not a dying craft as some people believe; on the contrary it is flourishing and increasing, nay, even under the shadow of the mills! Of the total quantity of cloth that we consume every year, it is estimated that nearly 25 per cent. is woven on hand looms, 25 per cent. manufactured in cotton mills, and 50 per cent. imported.[1] This is the purely economic side of the craft; while the social and socio-economic benefits that it brings to the worker, by its being peculiarly suited to his sentiments, customs and habits, and by its enabling him to make a decent income and at the same time to escape from the evils of the factory life, need not be dilated upon here. Suffice it to say, that all over India it is the sole occupation of over half a crore people, while it is the welcome source of supplemental earnings to innumerable ryot families.

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[1] **Report,** pp. 193-4.

[2] i. e. they often employ superior raw material (e. g. mill yarn, synthetic dyes, sheet steel) or work with superior tools, (e. g. the fly-shuttle slay).

[3] *Ibid*, p. 194.

The next considerable domestic industry is metal-working. Herein are included half a dozen branches relating to the working of gold, copper, brass, iron and other metals. These industries are found principally in Upper India. The dyeing and calico printing industries are closely associated with the weaving industry. These three together "still refuse precedence, as regards the output and the numbers employed, to the organized industries."[2] Silk-weaving and sericulture are also very old industries but their output is at present quite out of proportion to the demand, and so have considerably gone down in the scale. Sericulture still flourishes in parts of Bengal, Mysore, and Kashmir. Wood-carving is also an important industry, and is carried on principally in South India. The manufactures of toys are carried on at a few places in the North and in South India, as at Chanapatna in Mysore. The arts and crafts works at Mysore and Bangalore have turned out some unique specimens of sandalwood and ivory carving, and ivory-inlay work. Artistic industries are chiefly confined to the big cities where they can find a ready market for their products. For the development of these industries what is chiefly required are facilities for training, financial assistance, as by co-operative societies, and the provision of new markets for the products.

The gross value of output of handloom weaving is estimated to be about Rs. 50 crores.[3] From this we must deduct, for raw cotton and mill yarn consumed, about half the amount. This leaves approximately Rs. 25 crores as the net value of handloom weaving. For the other industries, we take Rs. 15

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[1] **The Hand-weaving Industry** (p. 1.) (Pamphlet published for the Hand-weaving Exhibit in the Red Cross Fete, by the Department of Industries). These statements are corroborated by facts and figures given in the **Report of the Industrial Commision,** Appendix I. That appendix is styled "Statistical Evidence regarding the Development of Handloom weaving in India''. Statement II gives a very clear proof of the fact that the yarn consumed by handlooms in India was until very recently more than that consumed by mills, and that though the latter's consumption was increasing very fast, yet even upto 1914-5, it had not overtaken the consumption by handlooms.

[2] **The Hand-weaving Industry** (Pamphlet), p. 8.

[3] **Report of the Indian Industrial Commission,** p. 194. The Statement is for about 1916-8, so that even if it was slightly exaggerated then, it will hold good for 1921-2, when prices were much higher than in 1917-8. Hence we accept that figure.

crores, making in all Rs. 40 crores for handicrafts and cottage industries. The 15 crores for other handicrafts will cease to appear "high" when it is remembered that the blacksmith, the carpenter, the gold and silversmith, the cobbler, the coppersmith and the potter are, so to say, "village institutions" quite as much as the patel or headman, the kulkarni or account-keeper, and the chowkidar or watchman. They are to be found in almost all villages, and there are 720,000 villages in India!

2. **Transport.**—In the first chapter of this part we have argued at length about the question of inclusion or non-inclusion of the value of the added utilities brought about by commerce, in other words, profits of commercial services. We have there stated that the wholesale prices that we have taken really include also a portion of the profits of middlemen and transport agencies, and that for consistency's sake we ought also to reckon in the profits made by small traders from the sale of Indian produce. The argument applies equally well to the transport services. There is theoretically no reason why an arbitrary line should be drawn between the services of some agents and those of other like agents of the same class. Rather it would be theoretically objectionable to do so. But there as well as here there are insuperable practical objections. All profits of transport services cannot be included, for (1) some portion is already represented by valuing our production at wholesale rates, (2) some portion is derived from passenger traffic and this is really only the expenditure of the travelling public, (3) some portion is derived from the carrying of foreign merchandise with which we certainly have no concern, and lastly some portion is derived from carrying mail and parcels. Therefore, although our railways for instance now generally make huge profits, (viz., about Rs. 4.3 crores per annum on an average for the last 22 years, although in the last year of our inquiry there was a loss of Rs. 9 crores), we cannot count in all that sum as in any sense an addition to the wealth we have evaluated! The same is true of our shipping although that item is quite negligible when compared to railways. The other items of transport services, e.g., motor or cart transport in cities is negligible.

The practical difficulty precludes us from attempting any estimates of the added values brought about by transport services and which are not altogether completely represented by wholesale prices, although we have replied to the theoretical objction that these services only levy a toll on the community. In any case, what remains to be added in would be a very small item.

3. **Town Wealth.**—The next question which should naturally crop up here is, what about the income from houses and the urban site values? In Part I, Ch. IV, of this Book we have argued that wealth properly speaking consists

year, it is estimated that nearly 25 per cent. is woven on hand looms, 25 per cent. manufactured in cotton mills, and 50 per cent. imported.[1] This is the purely economic side of the craft; while the social and socio-economic benefits that it brings to the worker, by its being peculiarly suited to his sentiments, customs and habits, and by its enabling him to make a decent income and at the same time to escape from the evils of the factory life, need not be dilated upon here. Suffice it to say, that all over India it is the sole occupation of over half a crore people, while it is the welcome source of supplemental earnings to innumerable ryot families.

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3. **Town Wealth.**—The next question which should naturally crop up here is, what about the income from houses and the urban site values? In Part I, Ch. IV, of this Book we have argued that wealth properly speaking consists

only in material and tangible commodities produced, that national income is properly measured by the total material production, and that shelter, comfort, assistance, pleasure, etc., are not wealth and so cannot be counted in in an estimate of national income-wealth. On that reasoning, the income from houses and urban sites cannot be reckoned in by us. If these properties are used by their owners there is clearly no money income. If they are let out, even then the money income which the owners derive is really the expenditure of the tenants. This expenditure, it is easy to see ultimately comes out of the gross production; so that we should be guilty of a double counting if we included these incomes as well in the value of gross production. In either case, therefore, we cannot include in our computation the income or "rent" which proprietors obtain from their houses and urban sites, or which they would obtain if they would let them out. [1]

It would indeed be very fine if the nation could increase its wealth by its landlords' increasing the rents from their tenants! But this proposition would be the logical conclusion if we attempted to reckon in the "wealth" from houses and other landed property!

If we had proceeded to estimate the annual wealth of the country by a summation of "incomes received"—which is the usual method followed in the United Kingdom and in other countries where the income tax system is highly developed—then rents received would have been included in along with wages and salaries, profits, interest, royalties, etc., (cf. Part I, Ch. III ante). But proceeding on the method of production we cannot count in either the rents received or the "rentals" which owner-occupied properties would fetch if let out.

Nevertheless, there is one important aspect of the problem which must not be forgotten, viz., the new buildings constructed within the year of inquiry. This, of course, is material and tangible "production," and cannot be omitted. Upto now we have not counted in the value of the net production of building trades,—"net," that is to say, after deducting for timber, bricks, concrete, cement, iron and steel work, and every other "raw" material entering into the construction.

The Census of 1901 reports 55.8 million "occupied houses"; that of 1911 reports a figure of 63.7. The 1921 figure is not yet out, but at rate of growth of the preceding decennium the figure should be in the neighbourhood of 72 million. This means an increase of 9 million houses in 10 years, i.e., (.9) million in a year on an average. If we take account of the fact that of the 63 million houses which stood in 1911, some must have been demolished, the number of new houses built in the decennium would be nearer 10 than 9 millions i.e. 1 million in a year on an average. Most of these houses are certainly very small things and huts, and the big buildings are a mere handful. Therefore, the average **net cost** of the houses must be assumed to be a very low figure. At Rs. 200 per house, we get Rs. 20 crores as the net cost of new houses and buildings. The construction of big costly buildings cannot materially disturb this figure: even if as many as 25 big buildings are constructed in each of our 30 cities every year, and the **net** value of each building is as high as Rs. 50,000, the total will only be about three crores and a half. We therefore propose to add a sum of Rs. 20 crores for 1921-2 as the net increment on account of new structures erected within the year; and Rs. 10, 16 and 12 crores as average figures for the remaining periods. This sum, it will be easily understood, forms the profits of building contractors and the wages of all others engaged in the building trades.

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[1] In this connection it may be noted that houses occupied by their owners are regarded by the British Income-Tax Commissioners as a source of taxable income, under Schedule A. They are taxed like all other property on their "annual value", which in their case is calculated on the basis of "the reasonable rate of interest on the building outlay which would be necessary to call forth that outlay". *vide* Stamp, *British Incomes and Property*, pp. 15, 22-3, 123, etc.

CHAPTER V

Summary of Part III

1. **Retrospect.**—Having finished with all possible items of wealth that can come under the non-agricultural section we shall briefly survey them here.

The wealth that India derives from her manufacturing industries is estimated to be Rs. 186 crores for 1921-2. This is almost exactly one-eleventh of the wealth from agricultural production. Of this 186 crores, nearly 40 per cent. is contributed by textiles, (chiefly cotton manufactures), and about 21 per cent. more by handcrafts and cottage industries (where again textiles figure prominently). Food and drink make up 28 per cent. while leather, paper and all other manufactures, together with power supply, make up the remaining 11 per cent.

The mineral wealth of India is also great: In 1920, which figure being the latest is taken for 1921-2, it totalled Rs. 28.7 crores. **The Indian Year Book,** 1923, gives Rs. 32.8 crores for 1921; but as how the value figures are calculated is not stated, we do not follow it [1]. In that book, petroleum is given a very high value which almost accounts for the difference in the two totals.

A further sum of Rs. 20 crores has been put down on account of new buildings and other constructions. This brings the total wealth in Part III to Rs. 235 crores for 1921-2; and to Rs. 100, 188 and 132 crores for the three periods of our inquiry.

2. **Summary of the value of manufactures.**—The following is a brief summary of the value of the different manufactures in 1921-2 and our three periods. As for these last, whatever figures are obtained merely by a process of deduction from the last column, without any separate calculation, are placed within brackets.

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[1] **The Indian Year Book,** 1923, p. 367.

Commodities	Pre-War average.	War and Post war average.	Whole period average.	Year 1921—22.
	(Figures in Crores of Rupees.)			
Textiles:				
Cotton manufactures	9	29	18	53
Jute „	10	21	14	15
Wool & woollen „	3·1	5·2	3·8	4·1
Silk & silk „	·6	·5	·5	·4
Food & Drink:—				
Refined sugar	(3·5)	(6)	(4·4)	8·7
Tobacco manufactures	·5	·8	·6	1·0
Liquors, spirits etc.	(16)	(26)	(20)	32
Flour and flour manufactures	(5)	(8·2)	(6)	10·3
Leather „	5	6	5·3	6
Paper „	·7	1·7	1·0	2·1
Printing „	(·7)	(1·0)	(·8)	1·3
Manufactures from wood, stone, glass, and of cement	(2)	(3·5)	(2·4)	4·1
Power Supply (Gas and electric)	(1)	(1·5)	(1·2)	3
Engineering and miscellaneous industries	(2·5)	(3·5)	(3)	5
Handicrafts & cottage industries	(20·4)	(36·1)	(25)	40
Total manufactures:—	80	150	106	186
To this add:				
Mineral wealth	10	21·6	14	28·7
Building etc.	(10)	(16·4)	(12)	20·3
Grand Total of part III.	100	188	132	235

PART IV

General Summary and Conclusion

1. **Comparison of the four periods.**—We have now completed the measurement of the wealth of India, on the method of "Production." Part II which dealt with Agriculture production, Forests and Fisheries and Part III which dealt with manufactures, minerals, handicrafts, and Buildings show together an income of

Rs. 1106 crores on an average in pre-war years 1900-13.
Rs. 1862 crores on an average in war and post-war years 1914-22.
Rs. 1380 crores on an average for the twenty-two years 1900-1 to 1921-2.
and Rs. 2364 crores for the year 1921-2.

According to the weighted index numbers prepared by the Department of Statistics, the average price-level in the war and post-war period was calculated by us, in Chapter IV of Part II, to be 53 per cent. higher than the average price level for the pre-war years 1900-13; that for the whole period (1900-22) 19 per cent. higher; and that for 1921-2, 114 per cent. Reducing the incomes of the other periods and of 1921-2 to the pre-war average price-level, we obtain:—

Rs. 1106 crores for pre-war period.
Rs. 1217 crores for war and post-war period.
Rs. 1160 crores for the whole period, 1900-22.
Rs. 1105 crores for the year 1921-2.

These figures reveal the fact that in the recent years comprised in the war and post-war period, the wealth of the country has increased by 10 per cent. over what it generally was in years before 1913. As for the year 1921-2, the above reduced income figure shows a very slight **decrease** over the pre-war figure, but **that is entirely deceptive** for the following reasons:—

The weighted index number for 1921 is given at a very high figure of 323 compared with 151 as the average for 1900-13, that is an increase of 114 per cent. But the unweighted index numbers give us a rise of only 94 per cent. Which is the correct one? As a matter of fact the whole system of calculating index numbers in India is faulty, and the numbers are untrustworthy. Generally if there is to be a choice of evils the weighted index numbers are to be preferred. But even in this case the index number of a single year is much less safe to rely upon than the average of index numbers of a series of years. From the latter you can get a good idea of the normal price-level of the period; but the former is likely to be vitiated by some temporary causes of disturbance which may make all the difference and cannot be relied upon as an unerring finger-post. The upshot of the argument is that it is incorrect to take the price-level of 1921 to be so much as 114 per cent. higher than the average pre-war price-level; and to make comparisons on this basis between the different periods is not only incorrect but entirely deceptive.

If a signal proof were required for this statement, it is this: for the last three years while the weighted index number rises the unweighted one falls and vice versa—as we have already drawn attention to in Chapter IV of Part II.

	[Average pre-war price level.]	1919.	1920.	1921.	Relation of the last two columns.
					Per cent.
Weighted index numbers ..	[151]	301	273	323	+ 18
Unweighted index numbers.	[121·5]	276	281	236	− 16

Now it is commonsense logic that either the price-level of 1921 is higher than that of 1920, or it is not. But it cannot be both higher and lower. And if one series shows it to be "higher" and another "lower", the poor bewildered economist is no doubt sorely tempted to cast science to the winds and trust the "non-scientific" popular feeling on the matter. This, by the way, is that prices reached their high water mark in 1919-20, and that ever since that year there is a steady decline; also that the present day prices are about 70 per cent. higher than those prevailing in 1914 (which year itself had a price-level some 20 per cent. higher than the normal for the whole pre-war period). We therefore cannot accept the rise of the 1921 price-level over the pre-war average price-level by so much as 114 per cent. On the other hand, it is also difficult to apply the **Unweighted** Index Numbers (which show a rise of 94 per cent.) to test the income figure of 1921-2, while we use the **Weighted** Index Numbers to test the income figures of the other periods.

But so far as the single year 1921-2 is concerned there is proof to show that the Unweighted Index Number cannot be much wrong. The point revealed by the Unweighted Index Numbers, viz., that there was a steady fall in prices from October 1920 onwards, and that the price-level in 1921 was lower than that in 1920, is confirmed by index numbers prepared by the Bombay Labour Office. The annual average wholesale prices (for all articles) in Bombay, show a fall from 215 in 1920 to 196 in 1921, a decline of 9 per cent. And again the cost of living index in Bombay, (based on retail prices), shows a **decline** from 83 in 1920 [i.e., 83 per cent. rise over July 1914] to 73 in 1921, a fall of nearly 12 per cent. These facts make it clear that, so far as the single year 1921 is concerned, the Unweighted Index Numbers are more to be relied upon than the Weighted Index Numbers. At any rate, it is clear that when these latter give, for 1921, an index number very much **higher** than the one for 1920, in face of proof to the contrary, that index number for 1921 [viz., 323] cannot be accepted, and cannot be made the basis of our subsequent argument.

We are therefore not wrong in rejecting the 114 per cent. rise for 1921 and advocating a **maximum** figure of 100 per cent. rise only. At this maximum rate, the 1921-2 income figure of Rs. 2364 crores would, when placed on the basis of the pre-war average price-level, mean Rs. 1182 crores.[1] In other words, the total income of the country in 1921-2 is about 8 per cent. higher than the average income in pre-war years. This is quite on a line with the 10 per cent. increase as revealed by comparing the average income of the war and post-war period [viz., Rs. 1217 crores as reduced to pre-war level] with the pre-war average income, viz., Rs. 1106 crores. **We** therefore **conclude that it is very nearly the truth to say that the real annual wealth of India in recent years is about 10 per cent. higher than what it was in the pre-war years.**

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[1] From what is said on p. 198 *infra* it will be seen that even this 100 per cent. rise here taken is really much too much; and that it is only by taking a figure of 94 per cent. rise that we can institute comparisons satisfactorily.

2. **Summary of Quantity Figures.**—The following is a complete summary of the quantity figures of production, both agricultural and non-agricultural:

Commodities.	Unit of Quantity.	Pre-war period.	War and Post war period.	Whole period.	Year 1921-2.
	Million Tons.				
Rice	„ „	32·5	33·3	32·8	35·1
Wheat	„ „	8·4	9·3	8·7	7·0
Barley	„ „	3·2	3·4	3·3	3 5
Jowar	„ „	6·9	7·7	7·2	7·3
Bajra	„ „	3·6	3.4	3·5	3·6
Ragi	„ „	3·3	3·4	3·3	3·5
Maize	„ „	2·4	2·8	2·5	3-0
Gram	„ „	4·7	4·8	4·8	5·8
Other food grains and pulses.	„ „	10·3	10·6	10·5	10·5
Total food-grains ..		**75·3**	**78·7**	**76·6**	**82·3**
Sugar	„ „	2·3	2·9	2·5	2.8
Fruits and Vegetables	„ „		Not ascertainable.		
Condiments and Spices	„ „		„	„	
Linseed..	Thousand Tons.	452	450	451	476
Sesamum	„ „	654	651	653	745
Rape and Mustard ..	„ „	1160	1186	1170	1262
Groundnut ..	„ „	1460	1008	1532	970
Other Oil-seeds ..	„ „		652		820
Total Oil-seeds [1] ..		**3726**	**3947**	**3806**	**4273**
Cotton	Million Bales.	4·2	4·8	4·4	4·4
Jute	„ „	8·7	8·5	8·6	4·0
Indigo	Thousand cwts.	71	68	70	68
Opium	„ Chests	48·6	18	38	14·3
Tea	Million Lbs.	240	350	280	274
Coffee	„ „	38·1	37·4	37·9	37·2
Tobacco	„ „	960	960	960	960
Fodder Crops ..	„ Tons.	48	76	60	84
Hides and skins ..	Thousand „	100	134	110	144
Milk	Million seers per day	33	42	36	46·8
Cotton: Yarn ..	Million lbs.	620	670	640	692
„ Cloth ..	„ Yards	752	1520	1034	1731
Jute[2] :—Cloth-Hessians	„ „	1200	1500		1300
„ „ Sackings	„ „		45	1300	30
„ Bags-Hessians	„ Bags	420	325		120
„ „ Sackings	„ „		400	550	360
Coal	Million Tons.	10	18	13	17·9
Petroleum	„ Gallons	154	287	194	293
Gold	Thousand Ounces	580	590	583	499
Iron-Ore	„ Tons	150	450	240	558
Manganese.. ..	„ „	480	594	518	736
Salt	Million Tons.	1·2	1·5	1·3	1·6
Salt petre	Thousand Cwts.	291	420	330	310
Lead	„ Tons	8	15	11	19
Mica	„ Cwts.	32	42	35	47

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[1] **Excluding cottonseed the production of which may be taken to be about 2 million tons.**

[2] **1¼ Times the exports.**

The above table shows that production has increased slightly almost all along the line. Of course, as pointed out many times before, the figures for a single year are always liable to be disturbed by temporary and transitory causes and consequently, there are some noticeable decline in Jute, tea, opium, etc. for 1921-2. But every one of these can be explained or explained away. The decline in these things is however nothing compared to the great increase, (over the pre-war period), in foodgrains, oilseeds, and textile manufactures. If these increments are valued at pre-war average prices they will be found to aggregate nearly a hundred crore of rupees; e.g., 7 million tons more of food grains, at an average price of Rs. 80 per ton, gives Rs. 56 crores; 550 thousand tons more of oilseeds, at Rs. 140 per ton, gives Rs. 7.7 crores; 70 million lbs. more of yarn at annas six per lb., gives Rs. 2.6 crores; 1000 million yards more of cloth at three annas per yard, gives Rs. 19 crores, etc. This indeed, indicates the true and real increase in wealth, and Rs. 100 crores or thereabouts is the true measure of the increase. This calculation clearly proves that the 114 per cent. rise of the price level is erroneous. The production of 1921--2 is on a balance found to be slightly higher than the average production of the war and post-war period: Clearly, therefore, their values, written down to the common basis of pre-war price level should stand in about the same relation. This would be so if the index number of 1921-2 is **94 per cent.** (and not 114 per cent. nor yet even 100 per cent.) higher than that of the average price-level for pre-war years. [In other words, if the Weighted index number for 1921 is 291 and not 323, i.e., 94 per cent. and not 114 per cent. higher than the average number for the pre-war period, then alone the total production of 1921-2 would mean Rs. 1218 crores on the basis of the pre-war average price-level—comparing with Rs. 1217 crores for the War and Post-war period average production, scaled down to the same basis.] The Unweighted index numbers actually give us a 94 per cent. increase. The Weighted index numbers launch us into the absurdity that the value of production in 1921-2, on pre-war prices basis, [viz., Rs. 1105 crores] is not only very much lower than the value of the average production in the war and post-war period, [viz., Rs. 1217 crores on the same basis]; but **is also even lower than the value of the average production in the whole period 1900-22,** [viz., Rs. 1160 crores on the same basis]. This is **prima facie** absurd! Instead therefore, of the index numbers being useful to measure the true increase of wealth, we find that our quantity figures are useful to check the index numbers themselves!

It is the quantity figures that alone can be the indices of the real increase or decrease of wealth, and its true measure. The figures of value are

not correct guides, as the value of the "standard of value" itself alters; but they are useful in affording a common measure for heterogeneous substances which cannot otherwise be added up.

3. **Summary of value figures.**—The following table gives a complete summary of the annual wealth of India in our three periods and 1921-2.

ITEMS.	Pre-war period 1900-14.	War & post war period 1914-22.	Whole period 1900-22.	Year 1921-22.
	(Figures in Crores of Rupees.)			
Rice	353·6	541·1	419·2	696·7
Wheat	80·0	141·6	101·7	206·7
Barley	20·9	31·4	25·1	47·6
Jowar	48·8	81.6	60·7	117·1
Bajra	24·5	44·3	31·4	67·5
Ragi	23·3	32.3	26·0	41·0
Maize	16·3	30·4	20·4	47·3
Gram	37·0	61.3	45·7	102·5
Other food grains and pulses	65·0	104·9	79·8	147·0
Total food grains ..	669·4	1068·9	810·0	1473·4
Sugar	36·5	69·1	45·3	95·7
Fruits & Vegetables	79·5	152·0	112·0	183·0
Condiments & Spices	8·0	16·0	11.0	16·4
Total food crops ..	793·4	1306·0	978·3	1768·5
Linseed	7·1	9·2	7·8	12·1
Sesamum	10·6	17·0	12·9	23·0
Rape and mustard	14·5	22·5	17·1	28·7
Groundnut	16·3	18·1	19·9	20·5
Other Oil Seeds		6·8		10·3
Cotton-seed	7·0	9·0	8·0	11·0
Total Oil-seeds ..	55·5	82·6	65·7	105·6
Fibres : Cotton	48·3	89·3	62·0	79·2
Jute	28·3	39·1	32.2	25·8
Sann-Hemp	4·6	6·8	5·4	2·3
Other non-food crops :—				
Indigo	1·7	4·4	2.7	4·2
Other dyeing and Tanning substances ..	0·7	0·7	0·7	0·4
Opium	9·3	4·8	8·6	4·6
Tea	10·5	17·5	12·3	15·4
Coffee	1·8	1·9	1·8	2·0
Tobacco	12·0	18·0	14·4	20·4
Other drugs & medicines	·7	1·4	1·0	1·4
Fodder-crops	48·0	114·0	72·0	126·0
Total non-food crops (excluding Oil seeds.)	165·9	297·9	213·1	281·7
Total Agricultural produce ..	1014·8	1686·5	1257·1	2155·8
Deduct for seeds	—20	—35	—25	—58
NET Agricultural production	994·8	1651·5	1232·1	2097·8

[*Table Contd.*

Table Contd.]

ITEMS.	Pre-war period 1900-14	War and post-war period 1914-22	Whole period 1900-22	Year 1921-22
Income from Cattle :—	(Figures in crores of Rupees) (Value of Hides and Skins, bones, horns, manure, meat, milk, accretions to live stock, etc., are taken to be off-set by the cost of upkeep of animals, so as to leave income *nil.*) (*Vide.* pp. 145-7 *Supra.*)			
ADD FOR:				
Total Forest Wealth (*Vide* p. 157 for details for the year 1921-2.) ..	10·0	20·0	14·0	28·0
Fisheries	1·2	2·5	1·9	3·2
Total Net Wealth in Part II. ..	1006·0	1674·0	1248·0	2129·0
Cotton manufactures	9·0	29·0	18·0	53·0
Jute do	10·0	21·0	14·0	15·0
Other Textile manufactures	3·7	5·7	4·3	4·5
Food and Drink (Total)	25·0	41·0	31·0	52·0
Leather manufactures	5·0	6·0	5·3	6·0
All other manufactures, power supply, engineering and miscellaneous industries.)	6·9	11·2	8·4	15·5
Handicrafts and cottage industries ..	20·4	36·1	25·0	40·0
Total manufactures ..	80·0	150·0	106·0	186·0
Total Mineral Wealth	10·0	21·6	14·0	28·7
Buildings etc.	10·0	16·4	12·0	20·3
Total Wealth in Part III ..	100·0	188·0	132·0	235·0
GRAND TOTAL ..	1106·0	1862·0	1380·0	2364·0

4. **The wealth of India in relation to the population.**—The above table gives us the total net income of the country estimated on the method of production. This may be regarded as the gross income of the people, from which charges (to be touched upon presently) must be deducted in order to arrive at the total income available for enjoyment to the people of this country.

The per capita gross income :—

PERIODS.	Total income.	Population.	Gross income per capita.
	Crores of Rs.	Millions.	Rs.
Pre-war period 1900-14	1106	305	36
War and post-war period 1914-22 ..	1862	318	58½
Whole period 1900-22	1380	310	44½
Year 1921-22	2364	319	74

As stated in Part II, Chapter I, these figures will each be of use for different purposes. In the latest year for which statistics are available, the gross income per head comes to Rs. 74 but taking the last eight years it is Rs. 58½. In the early years of the century and before the Great War it was Rs. 36; while the general average gross income during the twenty two years, 1900 to 1922 is Rs. 44½.

These figures somewhat agree with Rs. 20 for 1871 (Dadabhai Naoroji); Rs. 27 for 1882 (Baring-Barbour); and Rs. 30 for 1901 (Lord Curzon). But they do not agree with Rs. 18 for 1898-9, or Rs. 17 for about 1900 (Digby); Rs. 50 for 1911 (Mr. Findlay Shirras); Rs. 86 for about 1914 (mentioned by the Hon. Sir B. N. Sarma in the Council of State in 1921); or Rs. 46 for 1921 (Professor Shah.)

Although the gross per capita income is Rs. 74 there is also a great inequality of incomes, the highest ones being over a couple of hundred thousand. This inevitably means that the incomes of the poorer sections of the population is something less than Rs. 74. We have collected no data bearing on the distribution of the national dividend, but since there are admittedly very few who are rich or even well-off, compared with the millions and millions of the poor, the average income of the latter may not be less than Rs. 60 per head per annum.

This means Rs. 5 per month.

Is that the wealth of India or its poverty?

What can a poor ryot do with possibly less than Rs. 5 per month but starve himself gradually to death? This is a natural question; and it is out of this Rs. 5 that he has to pay his taxes, his debts or, at any rate, the interest on the debt, and incur all emergency expenses for sicknss, ceremonies, etc.! But there are several considerations which if taken into account may temper the severity of this ordeal:—(i) The ryot's income per head is only about Rs. 5; but this per capita is the income of a one year old as well! The proper view, however, is only obtained by considering that a ryot and his wife and three children together have Rs. 25 for family expenses. (ii) If the ryot has a pair of cattle, so much the better for him; it is not out of this Rs. 5 that he supports them, for we have deducted the cost of upkeep of the cattle from the total income and have found that the two items roughly cancel each other. Therefore, the Rs. 5 income does not carry with it the obligation to support cattle. (iii) Villagers have generally some small opportunities of profitting from forests in their vicinity, in the matter of fuel, materials for hut building, and other small comforts obtained gratis.

But however much these considerations may modify the extent of their poverty, nothing can detract from the fact that this poverty is colossal.

The gross per capita income in India is only Rs. 74 or nearly £5, in 1921-2, as compared with the pre-war incomes[1] of

The United Kingdom	£ 50
The United States	£ 72
Germany	£ 30
France	£ 38
Italy	£ 23
Australia	£ 54
Canada	£ 40
Japan	£ 6

5. **Charges on Income.**—The net income of the **country,** or the gross income of the **people,** that we have measured has further to bear some important charges before it becomes available for enjoyment by the **inhabitants** of the country. These charges will be considered more in detail in the next book. But it is well to note the nature of these charges, and their approximate amount:

(i) Clearly the whole of the public revenues are not to be deducted because the wealth remains within the country; only, the expenditure is made collective-by the state on behalf of its members. But there is a certain amount of the public revenues of India being "drained" away from India in the shape of Home Charges. These consist of payments in England made on account of railway, irrigation, post and telegraph, and other stores; interest on debt services of all kinds; salaries pensions, allowances, payments etc. for civil and military services; and many other things. So far as these expenses represent actual stores transferred to India, they are not quite a drain, but the item of stores is hardly a fifth of the Home Charges charged on the Indian revenues. Out of a grand total of £27.9 million, in 1921-2, stores represented only £.5.2, million.

(2) The next item is the "invisible" drain caused by payments abroad on account of shipping, banking and insurance services in connection with the transport of our merchandise.

(3) A third item is the return on overseas capital invested in this country. Much of this return on **public** debt is included under the Home charges, but there is also some remittance on private account. Private investment in India cannot be exactly determined but it is also considerable. The investment is ordinarily in companies registered in India but mainly or wholly controlled and operated under non-Indian auspices.

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[1] Dr. Stamp's article in the Statistical Journal 1919.

(4) There is also to be considered the analogous case of return on capital invested in India but held by companies registered outside India. All profits of these concerns operate as a sort of a drain from India.

(5) Lastly, there is the payment for imports, but as these are generally paid out of the exports this item does not count.

Professor Shah estimates the drain under all these heads to be about Rs. 218 crores. (See Book II).

This drain is of course enormous, and takes about Rs. 7 away from the per capita income reducing it to Rs. 67 if Professor Shah's calculations are correct. The total income of the country is Rs. 2364 crores for 1921-2; as to who gets what out of it we had better leave it to be considered by more competent authorities.

6. **Conclusion.**—This finishes with the measurement of the Wealth of India, the measurement, rather, of the poverty of India's millions. To different minds different remedies for the reduction of poverty will suggest themselves according to the appeal which our results will make to them. But it is no part of the design of this thesis "to suggest remedies which could be adopted to reduce this poverty."

The picture that we have depicted, though a dark one, is not too gloomy, for it reveals a slight but distinct advance. And there is every reason to hope for the better. As agricultural production is the fundamental source of our wealth, any improvements in agriculture brought about either by the efforts of the Agricultural Department or by irrigation schemes, and any improvement in the conditions of the agriculturists brought by Governmental action or through the agency of co-operative credit societies, and other co-operative organisations, or the active sympathy of the public, will inevitably increase the country's wealth. For in their prosperity lies our strength. And as regards our industrial development, this is at present arrested in its onward career by the economic chaos in Europe, but with the advent of stable condition in the European markets there is bound to be increasing demands for India's goods, and a corresponding impetus to our industries.

But the economic regeneration of a country is always a matter of time. Great changes cannot be brought about in a year or even a decade. We have, it seems, still to learn that economic progress can never be made by mere platform oratory or political speculation, and that it is only patient and laborious work that will tell. We must be prepared to encounter struggles and face years of adversity; it will not be plane-sailing with our barque every year. Wealth will initially increase very slowly, and our population being very large, the per capita wealth will increase more slowly still. But there is no evidence from the past to show that our wealth will not increase. We have not been going backwards, nor is it that we are remaining stationary. On the contrary, the present inquiry shows a real increase of Rs. 2-2-0 per head in the course of about fifteen years:—

	Pre-war period	War and Post-war Period
Gross income per head	Rs. 36	Rs. 58 8 0
At pre-war average price-level:	Rs. 36	Rs. 38 2 0

In the long run, no doubt, wealth will increase at a faster rate. The acceleration is in the beginning always slow, but "money makes money" as they say. Personally, therefore, we are quite confident about the future of the country, and we fully hope that the glorious Star of India will continue to shine ever more brilliantly.

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BOOK II

TAXABLE CAPACITY OF INDIA

CHAPTER I

DEDUCTIONS FROM THE GROSS WEALTH.

I. RATIONALE OF THE DEDUCTIONS:—FIRST CHARGE

The valuation of the material utilities produced in India during a year, as attempted in the previous portion of this work, has allowed for only one deduction: The seed or raw material required to produce a given quantity of the various utilities is a necessary deduction, which the most cursory consideration is bound to force upon the attention of the student. But there are other deductions to be made, besides, which, though not as necessary and fundamental as the seed required to raise the crop, or the raw material needed to produce the manufactured utilities, are nevertheless unavoidable, before anything like a proper appreciation of the National wealth of India—and its ability to bring about a corresponding welfare to the people of India,—is obtained. These deductions, when made, will not quite reduce the valuation to correspond exactly to the **REAL** wealth of India as distinguished from its **NOMINAL** wealth represented by the gross value figures previously calculated. The distinction between **real** and **nominal** wealth, though quite appreciable and intelligible, is largely an abstract, intangible conception, which is not satisfied by simply adding to the **nominal** wealth all the unmeasured and immeasureable utilities, and deducting from the same all similar and corresponding outgoings. In the particular case, for example, if we accept, for the measurement of the total material utilities produced or available in India in a year, the formula that: the sum total of material utilities (X)=The home production of material goods (A), **PLUS** imports of foreign commodities (B), **MINUS** the exports of domestic produce (C), we would soon find, from the very slightest attention to concrete facts, that the value actually paid by the Indian consumer of foreign commodities is much greater than appears on the records of the trade statistics, being inflated in the course of retail trade to no one exactly can say what proportions. Conversely, the value actually received by the Indian producer of the commodities exported from India must necessarily be much smaller than appears on the records, since the export valuation represents the prices of the commodities exported at the point of embarkation, which include a good many middlemen's charges as well as railway freight and other transport charges that do not go to the actual, original producer. Hence, quite apart from any detailed consideration of the character and consequences of the various imported and exported articles, it follows that the Indian producing community, instead of being the richer by the growth of the foreign trade, is actually the poorer, inasmuch as its imports cost it much more than its exports fetch to the producers proper. 'The above formula of

X (Net production in the hands of the producers)=A (Total Domestic production) + B (Imports) — C (exports)

would read in terms of money valuations, something like this:—

$$\left.\begin{array}{ll} X=2300 & \text{Crores of rupees :} \\ A=2400 & \text{,, ,, ,,} \\ B=\ \ 300 & \text{,, ,, ,,} \\ C=\ \ 400 & \text{,, ,, ,,} \end{array}\right\} 2400+300-400=2300.$$

This is an argument capable of very serious misapprehension, which accordingly, must be handled with the greatest care. For the increase in value or cost of the imports to the ultimate Indian consumers would, if shown in the above equation by, say, simply doubling the figure obtained from the official records, seem to **increase** the total value of the utilities available in India. But in such a representation the fact that the Indian people have to pay more for these imports than the figures at which they are represented in the Customs House statistics is utterly lost sight of. A proper, correct conception of the increased cost to the Indian consumer of these foreign imports can only be gained by adding to the amount of the exports—with which only the imports have to be and are paid—from India; so that, in the above equation, retaining the figure of the imports at 300 crores in round figures, we can get a more correct idea of the real cost to the Indian consumer by adding to the deduction under Exports. On the other hand, for the exports of Indian produce, the producer receives much less than is presented in the final export values as recorded in official statistics. But the fact of that underpayment—which is a distinct sacrifice on the part of the Indian producer—must be distinctly and specifically shown; and that, again, can only be shown if we make a further deduction to account for all the charges of the middlemen between the original producer and the final exporter, say of one-fourth the values of the Indian exports.[1] Hence the above equation will now read:

X or the net residue of the production which remains in the hands of producers,

=A (total Indian Production) = 2400 Crores
+B (The Imports into India) = 300 „
—The additional cost to the final consumer. = 300 „
—{ C (The exports from India) = 400 „
—The sacrifice or underpayment to the Indian producer of the exports. = 100 „ }

X=2400+300—300—(400—100)=2100 crores of rupees.

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[1] The argument in this section is based upon the well known difference in wholesale prices and retail prices in the case of imports, and the corresponding difference in the price of produce as measured at the place of production—valuing off the field ; and the price of the same stuff as measured at the point of exportation. Statistics in India are too meagre to give an exact basis for measuring the difference between wholesale and retail prices ; and so the assumption in the text of a fifty per cent. increase in cost to the ultimate consumer of foreign imports may not be absolutely accurate, and is not supported by any published statistics. But, apart from a few articles like machinery, mill-stores, Iron and Steel goods, imported and consumed in bulk by powerful importers, every day experience tells us that the retail prices of the common articles of general consumption are often more than double the wholesale prices. In any case, the figures in the text are only *pro forma* figures.

It is impossible to give an objective basis for evaluating this allowance. But taking Railway freight at 10 per cent., brokerage, insurance and banker's charges at 5 per cent. and merchants' profits at 10 per cent., the total would be 25 per cent.

But the deductions we are here chiefly concerned with do not concern such intangible factors as those instanced above. For the real economic consequence of the growth of foreign trade upon the material welfare of the community concerned depends not on the volume of the trade but rather on the character of that trade. If the exports from India were not, as to-day, raw materials and foodstuffs, but rather consisted of the surplus of manufactured goods, the double injury to this country, of her resources prevented from being fully developed and the value obtained in exchange by the Indian producer being much less than the recorded figures of exports show, would at least be minimised and be confined only to the latter sacrifice. But the loss or injury involved in our resources remaining undeveloped is essentially intangible, incapable of any concrete money valuation. In the measurement of annual wealth of India, as attempted in this work, we can find no room for such factors. We have, accordingly, to confine our attention only to those factors of addition or deduction which admit of a fairly accurate or reliable money valuation. And the deductions now considered are necessary to be made, not because without such deductions the produce of the country cannot at all be raised or brought about, but because they are the inevitable conditions for carrying on our task of production at all. If an analogy could make the idea clearer, we might suggest the case of debenture-holders in an industrial concern, who have been given a general, floating charge on the property of the concern, and whose claim to the stipulated debenture interest must be satisfied before any distribution of the income of the concern can be made amongst the proprietors thereof. The interest claim is a first charge upon the receipts; and, similarly, the deductions we are going to notice here are a sort of a first charge upon our gross total wealth. The analogy may even be pushed a little further without any serious disadvantage. Granting that capital is as essential in production as labour, the claim of the debenture capital to rank on a par with the rest of the proprietors' ordinary capital is untenable in our eyes. As a rule, debenture capital represents working capital required by such a concern for its day-to-day needs owing either to defective banking organisation in the community, which necessitates such a permanent or long term charge instead of a short-time charge for Bank cash credit or overdraft; or, what is more likely, the assertion of the capitalist's innate greediness which seeks to keep the largest possible proportion of the gains to itself, and therefore under-capitalising the concern in the first instance, hoping to make up for the deficit by such devices of allowing only a fixed charge on the profits instead of a full and equal share in the gains. The very fact of such manipulations as these ought to suffice to show that even in the capitalist's own eyes. the debenture-holder does not rank on a level with the ordinary proprietor, is not as essential and indispensable as the ordinary capitalist in the task of production. Under contractual obligations, this first charge must be met before the profits can be distributed; but that does not prove that the cause of that charge is a factor in the production carried on by the concern. The deduction from the gross annual income of India noticed below are, similarly, in the nature of a first charge which is due to a series of political and economical considerations not directly helping or bearing upon the process or volume of production in India.

2. THE ROOT VICE OF MONEY VALUATION

Before, however, we begin noticing seriatim the deductions, it must be recollected that the value of the total national income of India, including the Native States, was, in 1921-22, according to our calculations, 2364 crores of rupees, which, at the level of prices prevailing at the pre-war average would amount to only 1105 crores. This figure stated in round terms is slightly different from the more precise figure worked out **ante,** Book I, pp. 194-6. The figure given here seems to show that the real wealth has decreased, whereas on the pages referred the argument tends to show that there is an increase. The increase however is very slight, and does not materially affect the argument. The same fact put in another form would mean that the average per capita income in 1921-22 has been calculated to be Rs. 74, which, at the prewar level of prices, would equal only a little over Rs. 38. This is not a deduction but a modification, which must be clearly borne in mind. The mere rise in money values does not by any means indicate a corresponding growth of the wealth of the community. In this particular case, if we eliminate this disturbing influence, there seems no appreciable increase in the annual material production in India. We shall have occasion more fully to refer to this aspect in a later chapter. Here it is enough to point out that while the money values of the material products raised in India may show a great increase over a series of years, the quantitative aspect does not show any great or substantial improvement. If the prices of Indian produce have risen in the last few years, and if the whole of the increase may be assumed to go to the producer,—a manifestly absurd assumption—the Indian producer is not necessarily better off correspondingly. He has probably an increased drain upon his resources in the shape of his various outgoings even greater than the increase in the money value of his resources.

3. DEDUCTIONS SPECIFICALLY CONSIDERED.

The deductions specifically considered may be divided into 2 groups according to the causes or circumstances which necessitate them: Political and Economic. This description is apt to be misunderstood without a word of caution. It is not to be presumed that what we call here Economic deductions are alone the proper reasonable deductions, while the Political deductions may be considered as specious and arising out of some unjustifiable prejudice. We define deductions in this connection to be all those charges which must be met, under the unavoidable obligations of our present social organisation, before the producer or the community as a whole can enjoy the produce. In other words, these are definite outgoings from the country which, once they leave our shores, are finally lost to the country; and as such to be distinguished from those other outgoings or disbursements which nevertheless remain in the country. The former definitely affect the volume and even the process of production; the latter constitute only a problem in distribution, because it is merely a question of shifting a given part of the produce of the community from one section to another of its members. The division of these outgoings or deductions into the two groups of Political and Economic have, accordingly, nothing to do with the prejudice or misconception of the author, but simply relates to the nature or complexion of the circumstances which are mainly responsible for one or the other of these deductions.

4. THE PUBLIC REVENUES—ARE THEY A DEDUCTION?

To illustrate our meaning let us take an example—that of the public revenues. These payments are made now-a-days in money, but must ultimately come from the common fund of the total national production of material commodities. They constitute a compulsory demand which, in the theory of the pubic law of most modern communities, are regarded as a first charge which must be met irrespective of the gain or loss to the payer. In the majority of cases they are taxes or compulsory deductions from the wealth of private citizens demanded by the State for the service of the community. And even in cases where—as in the Postal, Railway and Irrigation charges of the Indian Government—there is a pretext of correlating and justifying the charge by the service rendered, the fact that the individual has practically no option but to pay the charge fixed by the state if he wants that service at all, makes these charges really indistinguishable from the taxes more properly so called. In this method of reckoning, the total revenues of India, as shown in the subjoined table, ought to be regarded as a charge upon the resources of the people. These figures do not tell all the tale. For since 1921-22 the provincial revenues and expenditure have been completely separated from the Central finances, and the former as well as the latter have been considerably augmented. The total demand from the people, moreover, is further understated to the extent that the railway income of the state is shown only as net receipts, i.e., gross receipts *less* all the working expenses.

Year.	Revenue Rs.
1911—12	1,24,25,36,247
1912—13	1,30,29,38,965
1913—14	1,27,81,07,626
1914—15	1,21,73,64,987
1915—16	1,26,62,03,049
1916—17	1,47,07,56,443
1917—18	1,68,99,35,204
1918—19	1,84,88,66,160
1919—20	1,97,48,59,319
1920—21	2,15,01,84,005

The real total collected from the people, if it were to be correctly represented, ought to give the full receipts of the railway [1] and other similar commercial or earning departments of the Government of India, which would thus make a total deduction, according to this method of computation, of close upon 300 crores per annum.

But even this figure of 300 crores does not represent the total demand on account of the state from the people of India. This is only the revenue of the Central and Provincial British Governments in India. The revenue demands of the so-called 600 odd native states, varying from six crores per annum of the Nizam to a few thousands of a petty seventh-rate chief in Kathiawar cannot in the aggregate be less than 75 crores or an average of 12½ lakhs per State. [2] As the computation of the wealth of India has in the first part of this work been made with reference to the whole of India, British territories as well as Native States, it is but proper that we should include the whole also of the public revenue demand, which must be paid before the producer can enjoy the fruits of his labour.

These figures are compiled from various administration Reports, and are almost in every case an under-statement. Besides they do not include all the states. Our estimate of 75 crores is anything but an exaggeration. Municipal and other local bodies revenues are also not included.

5. THE HOME CHARGES

From a gross total produce valued in 1921-22 at 2396 crores, if we deduct the 375 crores odd required for the maintenance of the state in India, the

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[1] The gross Railway Receipts in the last few years and the net railway revenue taken credit for in the Budgets of the Government of India have been:—

	Gross.	Net.
1921—22	Rs. 81,94,00,954	Rs. 15,20,82,829
1922—23	„ 93,48,55,002	„ 26,82,98,476
1923—24	„ 94,45,29,000	„ 32,37,87,000
1924—25	„ 97,26,84,000	„ 29,74,93,000

[2] Compare the following compiled from the **Indian Year Book, 1923**, and from the **Financial Statements** of Mysore, Hyderabad, Baroda &c.:—

State.	Revenue in lakhs of Rs.	State.	Revenue in lakhs of Rs.
Hyderabad ..	600	**Madras States** ..	290
Mysore	313	**Bombay** „ ..	450
Baroda	208	**Bengal** „ ...	56
Baluchistan ..	17	**Bihar** „ ..	70
Rajputana States ..	500	**U. P.** „ ..	85
Central India „ ..	243	**Punjab** „ ..	300
Kashmir	95	**C. P.** „ ..	44
	1976		1295
		Total	3271

produce left to the people would barely amount to Rs. 2000 crores in value, even at the inflated prices of 1921-22; and possibly less than a thousand crores at the pre-war level of prices. The deduction, however, is unjust in its entirety. For a portion of the produce or values taken up for public purposes in this way would be returned again to the public in the shape of public expenditure. It is a simple transference of values from one section of the people to another, though a microscopically smaller one. It is at best a problem in what the economists style distribution of the national dividend, to which we shall refer in greater detail in another section of this work. For the present it is enough to note that since not the whole of this amount of public revenues is spent away from the people of India, we cannot consider the whole of that amount as a just and proper deduction from the wealth of India. But by the same reasoning that amount, if any, which is finally taken away from this country and spent beyond its frontiers, without any chance of its people receiving any part of the benefit of that expenditure, must necessarily be regarded as the proper, just, valid deduction from the wealth of India. The Government of India's Home charges are the most obvious and considerable instance of this kind, which is almost entirely unbalanced on the other side by any corresponding receipts by India on the other hand. It is true that if the total Home Charges of the Indian Government were analysed, a material equivalent would seem to be obtained for that part of it which goes to the payment of stores imported on account of the Government of India. But if we must subtract from the total amount of the Home Charges the figure representing the stores obtained for India, we must also remember that of the expenditure incurred in India itself out of the revenues of India, a very considerable portion goes to remunerate the services of non-Indians whose savings—if not the total emoluments—are destined eventually to be drained away from India when the recipients of these emoluments or the owners of these savings finally leave this country and retire from its service. Not, indeed, the entire amount occurring in the Accounts of the Government of India and described as "Salaries and Expenses of Civil Departments" and the "Miscellaneous Civil Charges" is incurred in payments to non-Indians. But the fact that, until quite recently, the bulk of the Indian public service, in almost every department, in every superior rank, was manned by non-Indians who did not and would not make India their permanent home, coupled with the large outlay made on the non-Indian section of the army in India, warrants the assumption that the net deduction under the head of the Home charges from the gross annual income of India need not be modified in consideration of the material utilities obtained in respect of the stores. The following tables give an analysis under principal heads of the expenditure of the Government of India incurred in England which in 1920-21 totalled Rs. 46,44,67,635 and in 1921-22 was Rs. 46,22,99,698. But this figure is exclusive of the Home charges of the Provincial Governments which totals Rs. 2 crores in round figures.[1] Altogether, then, the total amount taken out of India owing to political causes or influences in 1921-22 could not be less than Rs. 50 crores, which must, therefore, be our first deduction from the gross total of the Wealth of India.

Home Charges

Year.	Debt.	Civil Exp.	Military Exp.	Stores.	Miscellaneous.	Total.
	£	£	£	£	£	£
1911-12	12,270,186	2,990,159	4,439,533	1,241,281	16,498	19,957,657
1912-13	11,465,738	2,948,556	4,449,007	1,356,708	9,563	20,279,572
1913-14	11,267,752	3,016,457	4,512,047	1,503,388	12,029	20,311,873
1914-15	11,628,435	2,861,874	4,200,145	1,428,646	89,498	20,208,598
1915-16	11,885,678	2,604,970	4,257,637	1,313,157	47,652	20,109,094
1916-17	11,758,883	2,723,494	3,754,735	2,696,199	212,316	21,145,627
1917-18	15,896,513	2,633,937	3,727,275	3,302,046	505,286	26,065,057
1918-19	14,188,121	2,566,689	4,146,726	2,144,717	583,242	23,629,495
1919-20	13,352,827	3,259,885	5,336,817	3,445,268	146,511	25,541,288
1920-21	13,178,733	3,767,427	7,634,970	6,274,308	109,071	30,964,509
1922-23	....	....	....	....	....	30,579,155

Salaries & Expenses of Civil Departments

Year.	Civil Department.	Miscellaneous.	Total.
	Rs.	Rs.	Rs.
1911-12	24,69,92,497	7,34,82,347	32,04,74,844
1912-13	25,03,31,320	7,38,93,479	32,42,24,799
1913-14	26,90,12,981	8,10,57,065	35,00,70,046
1914-15	28,36,49,652	7,96,70,751	36,33,20,403
1915-16	28,30,23,227	7,69,30,122	35,99,53,349
1916-17	28,62,18,444	8,12,14,088	36,74,32,532
1917-18	31,28,30,512	8,87,80,608	40,16,11,120
1918-19	35,53,23,266	9,43,91,649	44,97,14,915
1919-20	38,71,92,012	9,81,46,988	48,53,39,000
1920-21	45,55,93,177	11,24,84,715	56,80,77,892

Note.—The average of Civil expenditure on salaries, allowances and establishments for 10 years comes to Rs. 40 crores per annum, while the average of stores amounted only to Rs.3·7 crores per annum in the same period. It is true the stores figure since 1920-21 has grown enormously till in 1922-23 the total imported stores amounted to Rs.13·48 crores. But the charges on account of civil salaries, allowances and establishments have grown also; and if we add to that the cost of the European army in India, the amount actually drained out or eventually drainable out of the country would be far in excess of the stores received. And this quite independent of the complicated question as to the margin of profit kept by the foreigners on the stores of the Government of India.

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[1] According to the Revised Estimates of 1923-24 the total gross Home Charges of the several Provincial Governments in India amounted to Rs. 246 lakhs.

A word of caution or explanation may be added here to prevent a most likely misapprehension on this point. The Home Charges of the Government of India may be regarded as counterbalanced by the goods or services received in exchange; and may be taken, in the accepted language of modern economists, to constitute the **invisible imports** for which we have to pay in goods or money. This, in fact, is the view held by the official apologists of the existing regime, while a diametrically opposite view is adopted by the Indian nationalists who cannot find any equivalent in the services of English soldiers and civilians received in exchange and remunerated at such disproportionately heavy rates. To those, however, who admit these services have to be remunerated, the real issue in the controversy is rather the proportion between the service received and the return or remuneration made, complicated further by the additional question whether the corresponding service could not be performed by Indians, and so the drain or deduction now taking place avoided. In the method of computation adopted in this work, however, the point at issue is altogether different and perfectly simple. In valuing the wealth produced in a given period in India, we have altogether left out of our calculation all services, on the clear basis that since all services are ultimately to be remunerated from the same fund of material utilities produced in a given period in the community, we would be falling into the error of counting the same thing twice over if we added the value of services to the value of the objective material utilities produced. There is, therefore, no question in this connection whether or not the services received in exchange for the Home Charges can justly be said to be equivalent to the money values paid for them. All we have to note is that these Home Charges are in the nature of an encumbrance, a mortgage charge in our national annual income, which must be deducted before the income can be enjoyed.

Another deduction of a somewhat similar character is the expenditure, now steadily increasing every year, of the Indian princes outside India. This is a vague item, since no reliable figures can be had on this item. Generically, also, it is more akin to the economic deductions mentioned and discussed below than to the political deductions comprised in the Home Charges. It is the more fit to be discussed under the economic group since we can there lump it with the similar item of expenditure incurred by Indians other than princes visiting foreign countries, and set off the total by the expenditure on analogous account made by foreign visitors to India. It must, however, be recognised that charges on this account are not, necessarily or strictly speaking, in the nature of the first charge that must be deducted before the national income can be enjoyed; though, of course, in the ultimate analysis, they are outgoings, and therefore deductions, which must be made before a correct appreciation can be had of the national wealth of India. We shall revert to this point later on.

The other cognate question as to whether or not the entire revenue receipts of the Indian States and Governments can be regarded as a just deduction has already been referred to, but cannot be answered without reference to a consideration of the details of revenue and more particularly of expenditure, i.e., the use made of the revenues raised, which we shall leave over for discussion in the chapter dealing with the Incidence of Taxation in India.

6. ECONOMIC DEDUCTIONS

The other cognate question as to whether or not the entire revenue receipts of the Indian States and Governments can be regarded as a just deduction has already been referred to, but cannot be answered without reference under **four** main heads:

I. **Payments of Interest on Foreign Capital** invested in India in ana through private agency. From this head we must necessarily exclude payments on account of interest for capital borrowed abroad by Government, which is already included in the Home Charges. The item, moreover, deals only with the strict Interest receipts of foreign capital, and has no concern with the profits and other incidental gains of foreign capitalists doing business in India, which is an independent and an extremely difficult item to compute.

II. **Payments** made by India, directly or indirectly, **on account of the shipping service**, both in cargo and passengers, in overseas as well as in the coastal trade. As these services are almost wholly owned by foreigners, the amounts paid, in whatsoever form, must rank as deduction from the gross total of the material utilities produced in India in a year.

III. **Payments on account of commissions for banking and allied services** in connection with our foreign overseas trade, which are also almost wholly managed by foreigners, and which must consequently rank as deductions as well.

IV. **Profits and earnings of foreign merchants, professional men, and the savings of high Government officials,** civil and military, who are not permanently domiciled in India. This deduction must, of course, take account not of the total earnings, but only of the surplus profits, or rather that portion of it which is remitted abroad. As already remarked, this is a very tricky item to estimate with any approach to accuracy; but still, without making some sort of an allowance for it, we can scarcely be said to have arrived at a correct figure of the net wealth of India.

To these four main groups may be added a fifth smaller miscellaneous group of payments made by India on account of Indian princes, students,

merchants and others travelling abroad, counter balanced by receipts from foreigners visiting this country, or from Indians habitually residing and earning abroad and bringing or remitting their savings to this country.

Let us see how much we should have to deduct in terms of money on account of all these heads.

I. INTEREST ON OVERSEAS CAPITAL

Payments on account of Interest on Overseas capital have been recently computed in the following way by Mr. G. Findlay Shirras in a paper read before the Indian Economic Conference. "The degree to which India makes payments annually for overseas capital invested in this country in the form of **Interest** has been arrived at by a detailed examination of the extent to which Great Britain has made foreign investments over a series of years. Estimates of incomes derived from British capital invested abroad are based upon income tax statistics published by the Commissioners of Inland Revenue, and show the amount of income derived from certain classes of investments which come under the purview of the Income tax authorities. The income which the Commissioners of Inland Revenue earmark as coming from abroad is that received from Indian, Colonial and foreign Government stocks, municipal securities, and railways; but the Commissioners of Inland Revenue do not ascertain the additional income Great Britain derives from her investments in a vast number of miscellaneous undertakings, such as mining, mortgages, banking, tramways, telegraphs, telephones, jute, cotton, oil, rubber, and nitrate production, and industrial ventures generally. Sir George Paish in papers read before the Royal Statistical Society in 1909 and 1911 arrived at, after a laborious process, the extent of new capital investments in India and Ceylon to be as follows:—

NEW ISSUES OF CAPITAL INVESTMENTS

Year.	India and Ceylon.	Total Overseas Investments during the year.	Percentage of Column 2 to Column 3.
	£.	£.	
1908	13,469,787	145,878,300	9·2
1909	15,884,581	181,831,646	8·7
1910	14,720,503	189,151,137	7·8
Total ..	44,074,871	516,861,083	8·6

He examined the reports, balance sheets, and income statements of several thousand companies—in fact of all the British Companies working abroad about which official information could be obtained, and (1) all conversions were carefully excluded so that there was no duplication of capital issue; (2) the amounts were calculated at the price of issue and not at the nominal value of securities; and (3) vendors' shares were omitted in order to arrive as nearly as possible at the exact amount subscribed in the aggregate. As regards the net sum subscribed by British Investors, he took credit for only those international loans, including American Railway issues, that had been subscribed for in Great Britain.

"With regard to other particulars of the capital provided by investors up to the end of 1907, these were arrived at by capitalising the income which actually paid income tax to the British Exchequer and by examination of reports of British Companies trading abroad. No credit was taken for money lent to defaulting States, as in these instances there was, of course, no income tax paid in respect of coupons. If no coupons were cashed there was no capital against them. The capital sum invested in foreign loans was arrived at by capitalising the coupons that had been cashed. Sir George Paish took the total of investments in other lands to be, allowing for private capital employed in a variety of ways, £3,500,000,000 in 1910. Excluding private capital, he arrived at a figure of £3,192,000,000. For India the **total** capital investments, up to and including 1910, but excluding private capital (i.e. capital for which no documentary evidence was readily available) were as follows:—

	(In million £)
Government	179
Railways	137
Tea and Coffee	20
Rubber	5
Tramways	4
Mines	4
Oils	3
Banks	3
Others (including jute etc.)	10

a total of over £ 365 millions. This total may be compared with estimates which I prepared for the Indian Industrial Commission some years ago. My estimates were £447 millions excluding capital raised in India, and excluding such capital approximately the same figure was arrived at by Sir George Paish. As was pointed out by the latter at the discussion before the Royal Statistical Society the percentage of purely Ceylon capital is a very small part of the total investments and is insignificant. In some ways it is an advantage to have these Ceylon investments, although small, in the total, as Ceylon is within the "rupee zone." For recent years the percentage of Indian investments to the total has increased especially in 1922-23. After an examination of these floatations which were published by the Board of Trade in its Journal, we are driven to the conclusion that the percentage for 1922-23 should be higher than the average of the three years 1908, 1909 and 1910, taken by Sir George Paish. If his estimated total capital investments for 1910 be taken at £365 and £3192 millions for India and all countries respectively this would give 11 per cent. If an allowance for capital that is repaid be made, the proportion may be taken at 10 per cent. The Board of Trade has estimated that for 1922 the income of Great Britain from investments abroad was £175 millions and this official figure, all things considered, may be accepted. The Board has pointed out, in its Journal of 29th March 1923, that the fact that the estimates, both of capital values and of income obtained, are subject to a considerable amount of uncertainty cannot be denied. As the flow of income from one source or another varies, the capital value of the investments will also vary. The general basis of capitalisation has, of course, changed since the outbreak of war, and this must be borne in mind in comparing pre-war and post-war totals. The wide range over which the investments are spread probably tends to maintain the income at a reasonably steady rate, since reductions may be offset by expansions to a considerable extent. It is significant that most of the rise in estimated income over the period examined can be accounted for by the produce of new issues placed in this country. While it is true that there are foreign participations in many of these, it is also true that there are British participations in issues made abroad. Loans between Governments during the war have not been taken into account in the foregoing calculations, and the interest payable thereon has also not been considered until payments were actually made. This happened last autumn with regard to the American loan to the United Kingdom, and in the near future an annual payment exceeding £30,000,000 a year on this account will be due.' The **Economist** estimates for 1922 this amount to be only £100 millions, and in its issue of April 7, 1923, pointed out that the Board of Trade had taken too optimistic a view and did not take sufficient account of foreign capital sold during the war, apart from the official demobilisation scheme, of the investments lost in Russia and elsewhere, and of the loss in profits received from abroad through the depression of trade. It seems, however, in the light of the data available that the official figure is, if unduly optimistic, more accurate than the pessimistic figure of £100 millions estimated by the **Economist.** Ten per cent. of £175 millions is £17.5 millions or Rs. 26.25 crores. During 1922 the Secretary of State paid interest on Government and other securities from loans and not from councils. **In this connection approximately 50 per cent.** of the total capital investments is Government securities and 37 per cent. railway securities. The investments in cotton mills (£. 14 millions) are very largely held by Indians while in jute mills (£. 11 millions) by Europeans. These latter figures are, however, small as compared with the total Indian investments. Ordinarily, the Secretary of State would have paid interest charges out of the proceeds of Councils, and as this method was not actually adopted in the year 1922-23 to the full extent of the Secretary of State's requirements, no deduction has been made in this Balance of Trade statement in respect of interest charges relating to Government securities. **If these charges are eliminated, the total invisible imports in respect of interest on overseas capital will stand at Rs. 13.13 crores in place of the gross figure of Rs. 26.25 crores.**"

This detailed calculation is reproduced here partly to exhibit the difficulties of making these computations and the vagueness of the figures arrived at even when calculations are made; and partly to facilitate the critique of Mr. Shirras's method and results.

According to the method here adopted, we cannot accept as deduction the whole of Mr. Shirras's figure for Interest on overseas capital invested in India, since the amount of interest paid on Government borrowings has already been included and allowed for by us under the Home Charges. Mr. Shirras allows half of this item to be due to capital borrowed on public account. Of the total Interest payments of the Government of India amounting to Rs. 37.23 crores in 1922-23, as shown by the accounts of that year in the financial statement for 1924-25, Interest payable in England was Rs. 13.97 crores. Mr. Shirras's figure is thus confirmed to that extent, and we may take it for the remainder also it would be approximately correct. But applying the test of the direct method of calculation, we find that according to the Statistics of British India, Vol. I Commercial Statistics, Table 50, there were, in 1920, in the whole of India, joint stock companies registered **elsewhere** than in India and working in India, numbering 634, with an authorised capital of £650,294,299, of which £ 420,632,910 was paid up, in addition to debenture capital aggregating £. 102,729,703. The total capital at charge is thus £523,362,613. A year later, the figures were:

No. of companies	678[1]
Paid up Capital	£. 501,613,574

This does not include Debenture capital which was not appreciably reduced in the interval; so that we may fairly take £. 600 millions of foreign capital being at charge in British India in private hands, through non-Government agency.

The companies were divided and distributed as follows in 1920-21:—

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[1] Statistical Abstract for British India 1911—12 to 1920—21. Table No. 272—73 pp. 579—80.

Joint Stock Companies Registered elsewhere than in India, but working in India:

Description.	No.	Paid-up Capital.
		£.
Banking and Loan	29	68,728,630
Insurance	113	103,473,991
Navigation	17	23,169,876
Railways and Tramways	25	35,571,376
Other Trading Companies	227	232,052,377
Tea	170	18,603,349
Other Planting Companies	37	2,964,968
Coal Mining	6	914,962
Gold "	10	2,052,454
Other Mining &c. Companies	17	10,461,999
Cotton Mills	8	661,888
Jute Mills	7	2,392,000
Cotton & Jute Screws & Presses	2	150,000
Sugar	2	306,656
Other Companies	8	107,047
Total	678	501,613,574

It is clear from this table that:—

(1) It does not include any capital borrowed by the Government whether on ordinary debt account or for its productive public works which are owned by the State, like all the principal Railways and Irrigation Works. Interest on that account payable abroad may be taken roughly at Rs. 14 crores in 1921-22, and may be said to be included in the Home Charges and already allowed for.[1]

(2) It also does not include the profits of all those foreign companies which are registered as well as working in India. We may take that figure at about 5 crores.[2]

(3) It further does not include the interest of companies which, like the Exchange Banks and shipping companies, are neither registered in India nor operating wholly in India, but are nevertheless doing quite a substantial portion of their business in or with India. We shall include this under another heading, and so may leave it here without further discussion.

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[1] According to the Table on p. 12, the Debt charge for 1920-21 is given at £13,178,733= Rs. 19,76,80,995. This is much larger than the figure assumed here. In the Budget for 1924-25 the Interest payable in England is Rs. 17. 99 crores. The Government interest taken by Mr. Shirras is exclusive of Railways which he assumed to be 3/8 or 37 p. c. of the total payments under that head. Private companies thus account for 3½ to 4 crores only.

[2] The total capital of companies registered as well as working in India in the hands of foreigners—principally jute, tea, coal and engineering trades is about £. 35 million. At an average profit, or dividend, of 10 p. c. this would mean £. 3.5 million or about 5.25 crores of rupees.

If, now, on the £. 600 million of foreign capital actually engaged in India, though invested in corporations registered not under Indian laws, we allow a simple average interest at the rate of 6 per cent. only—fair and by no means excessive reward for capital—the amount payable in Interest on this capital would be £. 36 million, including debenture interest, or Rs. 54 crores. [1] To this we must add the amount on the same heading deduced from Mr. Shirras's calculation, but not included under Government remittances for Home charges, say Rs. 5 crores on private capital invested by foreigners in India in corporations or enterprises registered in India, or a total of Rs. 60 crores in round figures. [2] If we take the **profits** (including interest, commission etc.) at a 10 per cent. the amount would be Rs. 95 to 100 crores.

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[1] The Table appended hereto shows the dividends paid on the tea and coal mining and a few other miscellaneous companies. The percentage is much larger on an average.

[2] Comparison with Mr. Findlay Shirras's figures is bound to create confusion in the ordinary reader's mind in this connection. For, of his total figure of Rs. 26. 25 crores on account of interest on foreign capital invested in India:

50 per cent. he regards as Government Securities
37 „ „ „ „ „ Railway „
∴ 13 „ „ „ „ „ Private investment.

Presumably the Railway securities are not included in the Government securities, which therefore must be taken to consist of what in the Budget and Financial Statements of India is regarded as **Ordinary Debt**. On this basis, of the total amount, 26. 25 crores, payable by way of interest,

13·13 crores must be on Government account,
10·00 „ „ „ „ Railway „
& 3·12 „ „ „ „ Private „

But in view of the total ascertainable amount of capital invested by foreigners through corporations registered in India, this figure seems ridiculously small. The capital invested in Jute, Tea, coal, gold, engineering, breweries, other mining ventures, tramways, shipping &c. which may generally be taken to be of non-Indian origin and owner-ship, was in 1920-21 as follows:—

		Paid-up Capital.
Navigation	Rs.	3,58,91,103
Railways and Tramways	„	11,49,47,961
Tea	„	7,45,90,970
Other planting companies ..	„	1,14,99,919
Coal Mining	„	8,52,22,204
Gold „	„	22,93,216
Other „	„	7,78,47,003
Jute Mills	„	13,51,18,389
Mills for wool, silk, hemp ..	„	1,24,84,491
Total ..		54,98,95,256

To this we might add a proportion of the paid-up capital invested in other trading Companies (Rs. 44,67,47, 165) and also of Banking and Insurance Companies (Rs. 19,56,31,552) held by non-Indians. But even if we allow this share to be equivalent to the Indian share in the companies noted in the foregoing table, and thus mutually set off and cancel the two items, the total foreign investment in companies registered in India in rupee capital is Rs. 55 crores. which even at 10 p. c.—a very modest estimate in recent years,—would give 5·5 crores per annum. The jute trade alone gave profits (before paying Debenture interest) as detailed in the margin for the last 11 years; or a total of Rs. 68,33,46,352; i. e., an average annual profit of Rs. 6,21,22,395. The figure of Rs. 5 crores, as taken above for the **total** foreign capital of 55 crores, is, thus, extremely modest, and errs very likely on the side of understatement. (*Vide* the **Economist** of 26/4/24.)

1913	Rs.	2,45,97,553
1914	„	96,18,694
1915	„	4,21,48,960
1916	„	6,48,71,041
1917	„	4,23,92,573
1918	„	12,29,25,767
1919	„	11,64,53,696
1920	„	12,53,82,066
1921	„	4,95,86,331
1922	„	3,58,35,863
1923	„	4,95,33,808

II. Payments on account of Freight—both Coasting and Overseas.

Next, if at all, to the payments on account of Interest on Foreign Capital, are the payments made by India on account of **shipping freights.** Once again, we would first give Mr. Shirras's method of computation, and follow it up with our comments and amendments on the same.

"The nature of the information used and the details of calculations made are in many respects defective. Nevertheless it is believed that the broad results are substantially accurate, and various authorities who have been consulted are in general agreement with this view, while reserving their opinion on details.

It was first intended, in order to estimate how much India paid the carrying countries engaged in her overseas trade, to estimate the **earnings** of the mercantile marine (net **profits**) by calculating what amount would be required to cover expenses on the basis of time charter rates, adding in addition charterers' disbursements for bunker coal and port dues. In other words, the mercantile shipping of the countries engaged in the Indian trade might have been regarded as being time chartered for general trade, and an aggregate of the charter money, plus charterers' disbursements for bunkers and port dues, would have been taken as the gross payments for shipping. This information, it was found, was not available. It was, therefore, necessary to devise some other method by which the information could be obtained. A special investigation was made by the Board of Trade of the logs of British ships trading in 1913 for the purpose of ascertaining the distribution of shipping on different routes. These rates were grouped in thirteen main groups of which India was one, and the distribution of British routes on each group together with the general level of freights was ascertained. The Board of Trade selected a representative freight rate for each route and the average annual earnings were obtained. **India's share of the total earnings of the United Kingdom shipping was 9 per cent.** Taking that proportion for the year 1922, and if the Board of Trade estimate of £. 110 millions be accepted as near the mark of earnings of the British mercantile marine in 1922, this would give a figure of Rs. 15 crores as the gross earnings of British shipping during the year. The Board of Trade figure in 1922—£. 110 millions—should be compared with that of £. 94 millions in the pre-war year. The **Economist** for the year 1922 has taken the same figure as in the pre-war year, £. 94 millions. During the year 1922-23 Indian trade although showing a recovery was still in volume much below normal. The volume of exports and imports—based on twelve chief exports, covering (in value) 91 per cent. of the total export trade, and twelve chief imports, covering (in value) 66 per cent. of the total import trade—showed in 1922-23 a decrease in volume of 28 per cent.

as against the pre-war year, i.e. in the year under review the volume was approximately ¾ of the pre-war year. Freight rates, however, in the same period increased by over one-third. In these circumstances and in order not to err on the side of over-statement the 1913 gross earnings (£. 94 millions) may be taken; and 9 per cent. of this would be £8.46 millions or Rs. 12.69 crores. In 1922-23 British tonnage (clearances and entries) were 78 per cent. of the total, Japan—which carries a very large portion of exports especially of raw cotton to Japan—had a share of 6 per cent., the United States 3 per cent., and other countries 13 per cent. An allowance being made for payments under this head to these countrise the total shipping payments for the seaborne carrying trade of India would be approximately £ 10.8 millions or Rs. 16.2 crores. It is doubtful whether sufficient allowance has been made by the Board of Trade for the Indian coasting trade in which Great Britain had in 1922-23 78.6 per cent. of the total. Foreign countries in 1922 had 11 per cent. and native craft the remainder. On an average the difference between the value of imports and exports in the coasting trade is Rs. 7 crores. If 15 per cent. of this is payment for finance, insurance and minor transport charges, then this amount (Rs. 1.05 crores) should be deducted from the gross payments for shipping in the coasting trade. This gives Rs. 5.95 crores. Independent enquiries show that in 1922-23 the gross earnings of this trade were about one-third of that of the foreign trade or 5.4 crores. This generally agrees with the amount of Rs. 5.95 crores computed in this memorandum. As regards the coasting trade, however, it must be noted that not all the gross receipts of the trade should be taken in computing the invisible imports. The greater portion of this is expended in India; and what is transferred to England is only the profits of the trade. In this respect then the coasting trade is similar to a firm or an exchange bank doing business in India. This treatment of the coasting trade also gives rise to an interesting corollary. The expenditure in India of shipping companies like the P and O. say, on buying provisions or for paying its Goanese stewards, must really be deducted from the company's gross receipts when we are calculating the invisible imports under shipping charges. **The total expenditure for shipping services may accordingly be taken at Rs. 22.15 crores.** The expenditure for shipping services and commissions has not been included in the Balance of Trade Statement in the final computation, because under section 30 of the Indian Sea Customs Act (VIII of 1878) the Indian Import Returns include freights and insurance. An allowance of 5 per cent. has been allowed for under imports for the under-valuation of imports including articles consigned to India for sale, and articles of which it is difficult to obtain any real wholesale market value. The question of the under-valuation of imports, it is understood, is under the consideration of the Government of India. Indian export charges for shipping are paid by the importing countries, and are, therefore, not included in the final figures.''

In this case also Mr. Shirras's method suffers in accuracy owing to his having adopted the easier but more indirect method of computation. The direct method is, indeed, very difficult to apply in detail owing to:—

(1) The absence of adequate freight quotations to and from India. While freights on exports on the leading Indian articles from the principal Indian ports are fairly fully quoted and obtainable, those on imports, which, being, more valuable, are presumably able to and do bear higher freight charge, bulk for bulk, or weight for weight, are almost utterly unknown. The **Statist** freight index number is the only rough guide for this purpose, apart from the Cardiff-Bombay coal freights, or the Manchester Piece-goods' Association's arrangements with the Conference Lines.

(2) The large number of sources and destinations of the imports into and exports from India. Freight rates necessarily vary according to sources and destinations, and are further influenced by a number of complexes, like subsidies or bounties paid by the country owning the shipping available at Indian ports, or the agreements between Conference Lines.

An accurate computation of the freight bill by the direct method would take the import and export trade, month by month, article by article, port to and fro, by port fro and to, and charge in each case the appropriate average freight rate for the month.

This is all but impossible. But in the absence of it, the following near approach to the ideal may be taken to be not very far from the truth.

THE FREIGHT BILL OF INDIA

The problem of finding the freight Bill of India is thus doubly difficult. We have no adequate, official, uniform quantity figures for the imports from India.[1] And we lack any detailed information as to inward freights on imported goods. The following estimate, checked, in so far as it can be, by the subjoined table, is worth reproducing:—

Entered.	No.	Thousand Tons.	Cleared.	No.	Thousand Tons.
Pre-War Average ..	4316	8,116	Pre-War Average ..	4251	8,100
War Average ..	4660	5,749	War Average ..	4929	5,925
1919—20 ..	4072	6,498	1919—20 ..	4156	6,502
1920—21 ..	4331	8,046	1920—21 ..	4172	7,427
1921—22 ..	3948	7,642	1921—22 ..	4089	8,013

The grand total of tonnage in the last 3 years averages 14,71,900 tons. But the vessels need not all be fully loaded. The estimate of total tonnage of our foreign trade may thus be placed somewhere about 1,250,000 tons.

The War-time increase in the number of vessels was due to the increase of wooden sailing vessels in the business.

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[1] The number and tonnage of vessels entering and leaving British Indian Ports is a guide, which, however rough, might give some idea of the volume of the business.

A

Paid-up Capital Ordinary	Mortgage or Debentures	Names.	Dividends per cent. for Year.			
			1913	1921	1922	1923
Rs.	Rs.	Coal Companies.				
3,50,000	..	Adjai	16	50	50	50
2,50,000	1,20,135	Albion	Nil	7½	Nil	..
13,46,800	3,27,000	Aldih	9	2½	2½	2½
3,00,000	75,000	Aurrung	..	Nil	Nil	Nil
3,50,000	..	Bagdigi Kujama	5	15	15	7½
3,00,000	..	Bansdeopur	..	37½	30	37½
6,00,000	..	Bansjorah	12½	35	35	17½
3,84,990	..	Bansra	10	Nil	Nil	8
11,50,000	2,72,280	Baraboni	12½	13¾	20	10
1,60,000	99,906	Benakuri	2½	Nil	Nil	Nil
40,00,000	..	Bengal	50	65	65	57½
4,49,350	..	Bengal-Bhatdee	5	2½	Nil	Nil
4,50,000	..	Bengal-Giridih	6¼	15	8¾	12½
2,25,000	..	Bengal-Nagpur	30	80	65	85
15,97,000	60,912	Bhalgorah	25	27½	15	5
7,15,000	..	Bhulanbararee	10	50	35	Nil
1,60,000	..	Bilbera	Nil	21⅞	18¾	46⅞
4,55,000	..	Bogra	..	Nil	Nil	..
12,80,000	..	Bokaro and Ramgur	Nil	15	20	22½
3,50,000	..	Bolompore	..	5	Nil	Nil
4,98,500	..	Boreola	..	Nil	Nil	..
5,00,000	..	Borrea	Nil	30	20	5
5,00,000	..	Burdwan	..	Nil	Nil	Nil
8,12,500	..	Burra Dheme	Nil	Nil	Nil	Nil
45,46,140	..	Burrakur	Nil	20	40	47½
2,40,000	..	Caledonian	..	Nil	Nil	Nil
3,00,000	..	Central Dharmaband	..	Nil	Nil	Nil
3,00,000	60,000	Central Kurkend	55	Nil	Nil	15
3,75,000	..	Central Nodiha	..	Nil	Nil	Nil
4,99,025	..	Central Pench	Nil	6¼	7½	Nil
5,00,000	..	Century	..	..	6	..
2,50,000	..	Chatabar	..	Nil	Nil	5
5,00,000	..	Churulia	..	Nil	Nil	Nil
4,63,250	..	Damagurrla	..	Nil	Nil	Nil
3,00,000	..	Deoghur	..	Nil	Nil	Nil
4,50,000	..	Deoli	..	20	18¾	25
6,00,000	..	Dhemo Mala	..	Nil	Nil	Nil
4,20,000	..	Doogdha	..	Nil	Nil	..
18,00,000	..	East Indian	15	10	15	10
1,50,000	..	Economic	30	Nil	Nil	Nil
20,00,000	..	Equitable	10	17½	10	25
5,00,00	..	Fularibad	..	10	Nil	Nil
13,00,000	..	Ghusick & Muslla	15	22½	22½	12½
9,50,000	4,45,000	Gopalichuck	5	5	10	7½
2,00,000	..	Govindpore	7½	12½	12½	7½
6,00,000	..	Hapjan	..	Nil	Nil	Nil
4,00,000	..	Highfield	..	Nil	2½	2½
3,00,000	..	Huntodih	10	Nil	Nil	Nil
8,00,000	3,25,000	Hurriladih	5	5	Nil	Nil
8,50,000	..	Imperial	Nil	5	22½	7½
2,49,945	..	Industry	7½	12½	20	20
8,50,000	..	Jainty (Central)	..	10	10	10
3,73,250	..	Jainty (West)	..	12½	10	Nil
6,00,000	..	Jasnadih	..	Nil	Nil	Nil
3,50,000	..	Kalapahari	..	20	32½	40
5,00,000	..	Kandra	..	Nil	Nil	..

B

Paid-up Capital Ordinary.	Mortgage or Debentures.	Names.	Dividends per cent. for year.			
			1913	1921	1922	1923
Rs.	Rs.					
15,00,000 5,00,000	6,00,000	Karanpura	..	30	30	15
1,50,000 3,42,250	..	Kasta	..	90	90	45
5,00,000	..	Katras Jherriah	95	Nil	Nil	Nil
2,00,000	..	Kenduadih	..	160	145	150
7,50,000	..	Kharkharee	..	Nil	..	..
1,00,000	..	Khas Jherria	85	10	Nil	..
2,50,000	..	Khoodia	..	85	60	60
7,00,000	..	Kosoonda and Nyadee	10	Nil	Nil	Nil
5,50,120	2,54,447	Kuardi	7½	30	32½	27½
4,50,000	2,02,210	Lakurka	20	Nil	Nil	Nil
1,50,000 1,00,000	..	Marine	12½	12½	Nil	Nil
2,98,110	..	Minto	25	Nil	7	12
3,70,000 4,76,150	..	Mundulpur	Nil	30	30	30
2,45,000	..	Nagpur	..	2½	2½	2½
7,48,240	..	Nazira	Nil	Nil	Nil	2½
15,00,000	..	Neetooria	..	Nil	2½	15
15,80,000	..	New Beerbhoom	45	Nil	Nil	Nil
5,98,825	..	„ Kendah	5	17½	22½	40
2,50,000	2,29,010	„ Kessurgurah	10	6¼	10	1½
3,00,000	..	„ Manbhoom	7½	10	Nil	10
3,50,000	2,86,347	„ Sinidihl	..	70	25	..
5,50,000	..	„ Tetturya	Nil	Nil	Nil	Nil
4,00,000	..	Nodiha	Nil	7½	8¾	10
5,00,000	..	North Damuda	Nil	Nil	Nil	..
2,44,000	1,44,550	North Kajora	..	1⅞	1⅞	8¾
4,00,000	..	North Naikdih	..	Nil	Nil	N
1,15,000 1,57,500	..	North-west	27½	20	Nil	i
5,00,000	..	Northbrook	..	70	75	..
2,50,000	1,25,000	Northern	..	Nil	Nil	65
2,50,000	..	Ondal	Nil	Nil	Nil	..
90,000 3,72,105	..	Palasdanga	..	40	40	5
8,00,000	..	Parasea	Nil	..	Nil	Nil
15,00,000	..	Patmohna	..	2½	5	2
2,00,000 1,53,700	..	Pench Consolidated	Nil	Nil	Nil	Nil
4,99,177	..	Pench River	Nil	Nil	Nil	Nil
3,50,000	..	Pench Valley	25	12	10	Nil
7,00,000	..	Phularitand	Nil	50	50	15
2,24,160	..	Porascole	Nil	Nil	Nil	Nil
6,61,600	..	Poriapur	..	Nil	5	Nil
12,00,000	..	Raneegunge	20	..	..	Nil
4,00,000	..	Rassuan	..	65	75	35
2,98,982	..	Ratibaaty	..	Nil	Nil	Nil
3,83,600	..	Royal	Nil	Nil	Nil	Nil
2,87,650	..	Salanpur	..	Nil	Nil	Nil
5,74,500	..	Samla-Govindpur	..	..	..	..
14,00,000	..	Samla and Kendra	6¼	Nil	17½	3¾
4,54,200	..	Samla-Mandarboln	..	12½	17½	15
5,52,007	..	Samla-Ramnagar	..	Nil	Nil	Nil
			..	Nil	Nil	Nil

Paid-up Capital Ordinaty	Mortgage or Debenture	Names.	Dividends per cent. for Year.			
			1913	1921	1922	1923
Rs.	Rs.					
1,00,000	..	Sarakdih	..	Nil	Nil	Nil
5,00,000	..	Sathgram	..	Nil	10	..
8,00,000	..	Satpukaria Asonsol	5	Nil	Nil	Nil
5,00,000	..	Searsole	..	Nil	10	10
2,80,480	..	Seebpore	50	71 3/7	50	57 1/7
3,00,000	..	Seetarampore	Nil	15	17½	10
8,00,000	..	Sendra..	10	10	12½	10
3,00,000	..	Shampore	..	..	Nil	Nil
3,50,000 2,00,000	..	Singaran	Nil	7½	Nil 7	Nil 7
62,52,450	32,47,470	Singareni	..	10	10	10
7,50,000	2,25,000	South Govindpore	5	Nil	Nil	Nil
17,50,000	..	South Karanpura	..	..	Nil	Nil
8,11,350	..	Sowardih	..	7½	2½	Nil
8,00,000	..	Standard	20	70	90	85
2,70,000	..	Sudamdih	6	Nil	Nil	Nil
3,50,000	..	Suratand	..	Nil	Nil	Nil
6,00,000	..	Sutikdih	Nil	Nil	5	Nil
40,00,000	..	Talcher ..	..	..	..	Nil
90,000	..	Thandabari	Nil	Nil	Nil	..
11,90,000	..	Trans-Asjai	..	..	..	Nil
3,50,000	..	Union ..	7½	6¼	10	16¼
1,50,000	..	United ..	12½	Nil	Nil	Nil
5,46,750	..	Upper Pench	Nil	Nil	Nil	Nil
2,00,000	..	West Albion	..	Nil	..	..
6,96,872	..	West Jamuria	..	Nil	Nil	Nil
3,00,000	1,05,362	West Tetturiya	Nil	Nil	Nil	Nil
2,00,000	..	Western ..	..	Nil	Nil	Nil
		FLOUR MILLS				
12,00,000	..	Bengal ..	10	15	25	12½
4,00,000	..	Calcutta City	Nil	55	45	5
5,60,000	..	Delhi ..	..	25	25	10
6,00,000	..	Empire ..	5	6½	25	10
2,00,000 75,000	..	Ganesh ..	6	20	Nil	15
4,00,000	..	Hooghly ..	8½	80	65	40
6,00,000	..	New Union	6	5	5	..
1,50,000	..	United ..	..	75	65	40

The total dividend paid on all these Coal Companies in 1923, aggregated Rs. 1,25,07,889. On a total Capital of Rs. 8·52 crores, this dividend works out at 15 per cent. roughly while on the total block account aggregating Rs. 9·43 crores, it works out at about 13 per cent.

F

Paid-up Capital Ordinary.	Dividends Per Cent.					Names.
	1914	1920	1921	1922	1923	
Rs.						
2,00,000	15	Nil	Nil	15	50	Roopacherra
1,75,000	30	Nil	Nil	30	30	Rungamattee
1,40,000	20	Nil	15	40	45	Runglee Rungliot
2,50,000	..	Nil	Nil	10	30	Rutoma
2,48,800	Nil	Nil	10	45	65	Rydak
6,00,000	..	Nil	Nil	10	15	Sapoi
8,46,400	Nil	Nil	Nil	Nil	Nil	Sarugaon
1,50,000	5	Nil	Nil	Nil	20	Soajuli
1,50,000	3	Nil	Nil	Nil	Nil	Solim Hill
6,25,000	2	Nil	Nil	4½	10	Singoll
1,60,000	20	Nil	8	25	..	Singtom
2,00,000	10	Nil	Nil	30	75	Sonai River
8,00,000	6	Nil	2½	10	5	Soom
1,40,000	22½	Nil	Nil	Nil	Nil	South Cachar
8,00,000	..	Nil	Nil	Nil	Nil	Toon Ali
8,20,000	20	Nil	20	25	45	Teesta Valley
4,50,000	15	Nil	5	90	20	Teliapara
8,90,975	..	..	Nil	Nil	..	Tengpani
7,42,400	..	..	Nil	Nil	Nil	Texpore
2,20,000	8	Nil	Nil	Nil	40	Tirrihannah
1,80,000	8	Nil	Nil	15	35	Titabar
7,34,300	12½	10	20	30	10	Tukvar
1,25,000	..	Nil	Nil	15	10	Tumsong
1,00,000	20	Nil	30	50	100	Tyroom
60,700	20	Nil	Nil	Nil	.	Udna

The total dividend in 1923 paid on these Tea Companies amounted to Rs. 1·07 crores On a Capital of Rs. 7·46 crores (*Vide* p. 221) this amounts to over 13 per cent. while on the total block account aggregating Rs. 5·28 crores, the same would amount to over 20 per cent.

"The total exports of merchandise from and imports into India may be estimated at 6,600,000 and 4,600,000 tons. The freight rates from India being taken at 22 shillings according to the figure of the London **Economist**, we get the export freight at £. 7,260,000. As regards the imports, an average freight of 30 shillings per ton (the freight for Cardiff coal to Bombay being about 15 shillings throughout the year) gives a total of £. 6,900,000 as gross freight charge on the Indian imports. The two together make £ 14,160,000 equal to Rs. 21,24,00,000.

It is worth noting that the figures arrived at from the returns of the values of merchandise in foreign trade of India corroborate the above figures. The total value of foreign trade of India amounts in round figures to Rs. 520 crores, 300 crores being exports and 220 being imports. It is usual to regard 10 per cent. of the value as sufficient to cover the freight, insurance, commission etc. (Hobson in the **Economica**). Of this, however, according to Sir Robert Giffen, 2½ per cent. should be allowed to insurance, commission etc. thus leaving 7½ per cent. of the value of commodities for the cost of transport; 7½ per cent. of 520 crores amounts to 39 crores. If to the foreign trade figures, we add the earnings of British shipping companies in the coastal trade of India, i.e., Rs. 10,69,35,480 we get a total of close upon 33 crores of aggregate freight bill of India."[1]

The subjoined table of the detailed freight Bill for the foreign trade of India is compiled under the following conditions:—[2]

(1) The quantity figures are taken from the Official **Annual Statement of the Sea-Borne Trade of British India** with the British Empire and Foreign Countries (No. 1674, Department of Statistics), 1922. Wherever possible, however, they have been converted to some uniform standard for purposes of freight calculation.

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[1] This estimate was prepared for me by my friend Mr. S. N. Haji, whose practical experience of shipping business makes it more than of academic interest. He estimates the coasting freight thus:—

"The total cargo carried by steam vessels along the coast of India during 1922-23 may be estimated at 59,40,860 tons. The figure approximates the actual results by adding up the total quantities of all commodities carried from one maritime province to another during 1920-21 (**Annual Statement of the Coasting Trade of British India for 1921**). Taking Rs. 18 per ton, the standard average rate for the year, as the rate of freight along the coast of India, we get Rs. 10,69,35,000." See the **Statist** of May 19, 1923 for a critique of Mr. Haji's works.

[2] The freight for jute, cotton and seeds (Exports) is as given in the **Annual Review of the Trade of India for 1921-22**, p. 74, Table No. 51 as in April 1922 (No. 1752 Commercial Intelligence Department). For wheat, Tea, Hides, Lac, the freight is given as in 1920-21 (*Vide* **Annual Review of the Trade of India for 1920-21**, Table No. 73, p. 91.)

On the Imports, the Freight has been taken uniformly at 30/- per ton, except coal @ 14/9d.

(2) The outward freight is taken as given in the **Annual Review of the Trade of India** for 1921-22, or from the publications of the Bombay Chamber of Commerce where usually the freight is calculated as to ports in the United Kingdom, though in some cases Japanese ports have also been taken into account. This procedure militates seriously against the accuracy of our Bill, as only about 40 per cent of our exports go to the United Kingdom. Whereever no freight quotation was available, the calculation has been made at the lowest rate to err, if at all, on the safe side.

(3) The inward freights on imports, bar coal freight from Cardiff to Bombay, are not available. The rate we have taken is indicated against each item—usually the lowest.

(4) As the value figures show, the details do not exhaust all the items in the foreign trade of India both imports and exports. Adding a proportionate freight for the balance, we get:—

(a) for exports, £. 8,062,000 at the 1921-22 freight rates on the total exports, and

(b) for imports, £. 6,632,000 at the same calculation and on the same data.

The total bill thus works out £14,692,000, or Rs. 21,94,80,000.

IMPORTS 1921-22

Articles.	Quantity. Tons.			Value. Rupees.
		Figures are in thousands.		
1 Apparel		Tons.	100	1,12,63
2 Building and Engineering materials	Nos.	(1,82,34)	138	2,00,69
3 Chemicals	,,	....	51	1,90,88
4 Drugs	,,	....	3	1,58,37
5 Dyeing and Tanning substanees.	,,	....	4	3,20,52
6 Fruits and Vegetables ..	,,	(2,73,15)	58	1,68,00
6a Salt..	Tons.		472	1,51,68
7 Glass and Glassware	Tons.		....	
	Nos.	(2,73)	....	
	Feet.	(12895)	....	2,22,49
8 Liquors	Gls.	(4507)	....	3,76,62
9	Gross.	(13581)	....	2,08,80
10 Motor cars, motor cycles and parts	Nos.	(4209)		2,71,73
11 Paints and painting materials..	Tons.	....	14	1,23,96
12 Provisions and Oilman's stores .	,,	....	5	2,70,36
13 Rubber	,,	....	0	1,51,68
13a Paper and paste board ..	,,	....	35	3,34,11
	Nos.	(265)		
14 Spices	Tons.		8154	1,92,60
15 Stationery		....		91,37
16 Tobacco	,,	....	2	1,65,06
17 Wood Timber..	,,	....	56	1,15,08
18 Cotton Goods..	Yards.	(10,90,80)		
	No. 3		24	60,38,11
19 Machinery	Nos-	(24-7)		34,25,51
20 Sugar	Tons.		783	27,50,28
21 Iron and Steel	,,		613	21,13,38
22 Other metals	,,		38	5,06,43
23 Silk	yards.	(15)	1	4,33,93
24 Railway Plant	Tons.		148	18,91,06
25 Grain and Pulse	,,		451	9,35,59
26 Oil	Gls.	(1234,32)		7,56,14
27 Hardware	Lamps.	1357, Stores	(28)	5,91,90
	Glass.	13		
	Safes.	2		
28 Cole and Coke			1501	5,85,05
29 Instruments				5,14,81
Harmoniums only		154	..	
Pionos		320	..	
Records and machines ..		31,000 31	..	
Talking machines		4000 4	..	

				Freight rate.				Total Freight.
				£.	s.	d.		£.
Coal etc. Total Tons	1501	Value	at	0	14	9	on Tons	1,05,40,00
Other materials. ,,	2961	Rs. 2,32,68,82	at	1	10	3	on Tons	4,44,10,00
	4,462							£5,495,000

EXPORTS—1921-23.

See note on previous page).

Article.	Quantity.		Value.	Freight.
	Figures are in Thousands.			
			Rs.	£. s. d.
Cotton-raw manufactured ..	Tons. Yds. Yarn.	371 (159,969) 36	69,61,90	
Jute	Tons. Yads.	468 (1,120,568)		1- 1-8 per ton (from Calcutta to London.)
Rope	Tons.	2		
Bags	Nos.	(386,710)	44,04,49	2- 0-0 per ton or 50 c. ft.
Grain Pulse and Flour ..	Tons.	1653	29,98,98	1-19-0 per ton (From Calcutta to London.)
.. .. ..	”	140	18,22,02	3-15-0(50 cft.) 5-10-0 (per ton)
Seeds and Oils	” Gls.	735 (24,545)	20,25,03	1- 5-0 (per ton)
Lac	Tons.	22	7,91,58	1- 9-7 (to London.)
Wool-raw, manufactured ..	Raw. Cloth.	14 13		
	Tons.	27	3,25,78	1-1-8 as per cotton
Opium	”	1	2,05,42	
Metals	”	6,47	3,55,29	1-10-0
Hides, Skin, Leather.. ..	”			
Raw 48				
Leather 10				
	Tons.	58	10,01,51	3- 6-3 (per 50 c. ft.)
Coffee	”	12	1,39,08	5-10-6 (per ton.)
Dyeing and Tanning Substances ..	”	70	1,32,22	2-10-0 (per ton.)
Fodder, Bran, Pollards ..	”	1,85	1,14,60	1-19-4 (per ton.)
Manures	”	1,05	1,16,77	2- 0-0 (per ton.)
Oil Cakes	”	1,13	1,36,57	2 0-0(50 cft)
Paraffin Wax	”	28	1,27,70	2- 0-0 (per ton.)
Spices	”	17	1,00,36	2-0-0 (per ton.)
Articles not specified sent by post .		..	3,10,11	..
	Total Tons..	4690	220,69,81,000	£. 7,148,000

Total freight on the trade analysed ... ... £. 12,643,000—Rs. 189,645,000.

In this calculation, which has been arrived at by the direct method, no allowance has been made for the passenger-earnings of the foreign steamship lines plying in Indian waters. On an average of (cabin) 25,000 Indian passengers per annum costing £ 50 per head; and deck passengers averaging 2,000,000 at Rs. 25 per head, the total passenger traffic could not cost India more than 7 crores per annum in all[1] including mail subsidies. The marginal table would be very instructive in that connection. If we consider that an equal number of superior class passengers is brought to India as carried away from this country, the long voyage earnings to non-Indian ports would have to be raised by Rs. 1·87 crores, or a total passenger-earnings of—

	Rs. 3·75	crores	on foreign long voyages.
Plus	„ 5·0	crores	on Indian long and short voyages.

Total .. 8·75 crores, or Rs. 9 crores in round terms, including postal subsidies for the carriage of mails by sea on the Indian coastal centres, and India's share in the subsidies paid for the carriage of international mails.

Putting these figures together, i.e.

	Crores Rs.
Overseas freight ..	21·94
Coastal „ ..	10·69
Passenger-earnings.	9·0
Total ..	41·63

Number of passengers carried in Native passenger ships.	1920-21.
Long Voyages	
To Ports out of India—	
From Burma	2,248
„ Bengal	5,728
„ Bombay and Sind ..	15,081
„ Madras	..
Total ..	23,057
To Ports in India—	
From Burma	24,091
„ Bengal	..
„ Bombay and Sind ..	..
„ Madras	..
Total ..	24,091
Total Long Voyages ..	47,148
Short Voyages	
To Ports within the Province—	
From Burma	45,487
„ Bengal	33,222
„ Bombay and Sind ..	1,449,535
„ Madras	463
Total ..	1,528,706
To Ports beyond the province—	
(*a*) In India	
From Burma ..	182,821
„ Bengal ..	146,033
„ Bihar & Orissa ..	40,204
„ Bombay & Sind ..	8,023
„ Madras ..	154,908
Total ..	531,989
(*b*) Out of India—	
From Burma ..	7,694
„ Bombay & Sind ..	24,620
„ Madras ..	197,032
Total ..	229,346
Total to ports beyond the province	761,335
Total, Short Voyages ..	2,290,042
Grand Total, Long and Short Voyages ..	**2,337,190**

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[1] As these are passengers carried in Native passenger ships, it is doubtful if the non-Indian ships and their activities are included. And yet the ports mentioned in the detailed tables that follow include European, Asiatic and African ports to which ordinarily the Native Indian ships do not carry passengers in such numbers. Our figure of gross passenger earnings of foreign companies must be increased.

It may be remarked here that ever since the late statistician, Sir Robert Giffen, created a basis for computing the money-value of freight earned at 10 per cent. roughly of the values of the goods carried, including insurance and commission, or a net freight of 7½ per cent., no one seems to have troubled to challenge his assumption, or revise or verify the calculation, if any, on which that assumption was based. On that basis, i.e., 7½ per cent. of the total value of the goods carried being freight, the Indian freight bill on overseas commerce alone would be Rs. 45 crores or 50 crores. While coastal freight and passenger earnings would be extra of course. As a matter of fact, a glance at the detailed figures of freight calculated on the principal articles of trade to and from India, would suffice to show that the 7½ per cent. basis is utterly unreliable. Thus 14/ per ton on coal from Cardiff to Bombay is about 75 per cent. of the price of Welsh Coal at Cardiff: 28/6 per ton on rice, wheat, cotton, jute, leather may average anywhere from 1 per cent. to 25 per cent.; while 37/6 or 44 per ton or even 50/ per ton of manufactured goods, like piece-goods or machinery, may not amount even to a fraction of one per cent. of the value of the goods. On the total imports of nearly Rs. 250 crores in value we get a freight bill by direct calculation of about 10 crores, or 4 per cent.; while on the total exports of over 300 crores, the freight amounts to 12 crores; or also 4 per cent. The 7½ per cent. basis is thus insupportable.

In connection with this question, some further explanation is necessary in view of the plea that in the balance of trade and even of accounts these huge debits of India are nowhere visible.

It has been argued that in order to arrive at the payments made by India on account of shipping, the gross earnings of the British Mercantile Marine have been taken as the basis of the calculation; and, on certain assumptions, proportion of these earnings has been assigned to the Indian trade, and this amount has been taken as a debit against India. But it is urged, "it has to be remembered that the value of goods imported which are recorded in the trade statistics are the wholesale cash price for which goods of a like kind can be sold at the place of importation. This price obviously includes freight, insurance charges etc., involved in bringing the goods to India. It follows that the amount of the earnings of the British Mercantile Marine due to freights on account of imports into India are already included in the published figures of the visible balance of trade. If we assume that import and export freights are equal in value, the basic figure which you take should be halved. Again, it appears that the total gross earnings of foreign shipping companies engaged in the coastal trade have been taken as an invisible import. It seems however that a foreign shipping company engaged in the coastal trade, is as a foreign company engaged in other business in India; and only the profits of the compay which are remitted out of India can be treated as an invisible import. These profits are presumably included in the figures given for expenditure in interest for overseas capital in India. If these arguments are correct, the invisible imports on account of expenditure on shipping should be reduced from 22 crores to about 8 crores."

This argument is entirely unsound because, from the point of view of the real indebtedness of India, the business practice or system of recording trade values makes no difference to the fact that the freight service is performed for India by the foreigners, that this service has to be paid for, and that the payment actually and eventually must come from India. It may be that in the recorded statistics, under the peculiar system adopted, the fact of this payment is nowhere discernible; but that does not alter the fact that the service is rendered, that the payment is also made for it. In all probability, that payment is concealed in something like this manner: We receive imports which are valued at Rs. 250 crores, let us say: but which, including the freight on them, cannot be worth really more than 240 crores. In other words, for goods worth 240 crores we really have to pay 250 crores. Similarly, though the export statistics are F.O.B.—not inclusive of freight, the freight will nevertheless have to be paid; if not by us then by the purchaser of our goods. The 300 crores of exports thus cost our purchasers probably 312 crores. Had the same service, which is now performed by non-Indians, been performed by Indian owned vessels, the freight payment would have been there just as well. Only, instead of the amount leaving the shores of India once for all, it would have in the case supposed remained within the country itself. There would then have been a simple transference of values from one set of pockets to another, not a complete loss and deduction as is the case to-day. As regards the earnings of foreign shipping companies plying in Indian waters, the correct thing is to take the gross earnings for our purpose, less such outgoings as are incurred in India, and not the net profits as suggested in the above argument, just as we have taken the gross Railway receipts in the figure of public revenue demands and not the net profits of railways.

III PAYMENTS ON ACCOUNT OF BANKING COMMISSIONS

Coming next to the payments this country has to make on account of the financing of her total foreign trade, insurance, etc. Sir R. Giffen wrote in 1882 in dealing with such charges:—"I have already drawn attention to the point that the shipowner is not the only person concerned in the cost of conveyance, of which the aggregate excess of imports in the imports and exports of the world is composed. There are other commissions and charges, of which I have suggested that the English share amounts at least to 16 million pounds; perhaps 20 million pounds would be nearer the mark. The latter sum is only 2½ per cent. on the total of our imports and exports—about 800 million pounds; and when I point out that the insurance cannot be estimated at less than 15 sh. per cent., and bankers' commission, bill stamps, and minor charges at 5 sh. per cent., leaving only 1½ per cent. for all other charges, the estimate must be held to be moderate." "With regard to insurance charges Giffen seems to have taken a figure that was a gross charge taking no account of underwriters' losses and some reduction will be required on this account. Careful enquiries made show that for India the percentages are, for insurance charges ½ per cent. to 1 per cent., bankers' commission and bill stamps ¼ per cent., and other minor charges ¾ per cent. The total charges in this connection will, therefore, be from 1½ to 2 per cent. of the total value of exports and imports. The total value of sea-borne trade—exports and imports—of India during 1922-23 was approximately Rs. 611 crores. 1½ per cent. of this would be Rs. 9.2 crores and 2 per cent. would be Rs. 12.2 crores. In order not to over-estimate these charges, Rs. 9 crores seems, after consultation with exchange bankers and others, to be a suitable figure for the year 1922-23."

Here again is a needless underestimating of the obligations of India, which we must take at an average of 2½ per cent. of the total trade, particularly in view of the extremely high bank-rates in India. 2½ per cent. on 600 crores would make 15 crores of these financial commissions, which are entirely monopolised by the foreign banking houses doing business in India, and which, therefore, must be regarded as a further deduction from the gross total of the material utilities produced in India in a year.

IV. PROFITS ETC. OF FOREIGN BUSINESS AND PROFESSIONAL MEN IN INDIA AND THE SAVINGS OF THE PUBLIC SERVANTS

This item is the most difficult to estimate owing to utter absence of any figures in connection with it. The following estimate is submitted, however, for what it is worth, subject only to the observation that every care has been taken to found the estimates on reliable basis wherever possible, and to take the lower estimate wherever there is room for any doubt.

(a) **Profits** or commissions for the management of capital invested in India. The total foreign capital invested in India is, as we have seen elsewhere, £. 650 million in round terms including both the capital in concerns registered as well as working in India, and in those working but not registered in India. An average of 5 per cent. on the capital is really a very modest allowance; and at that rate, it would amount to £. 32½ millions or Rs. 48.75 crores or 50 crores in round figures.

(b) **Remittances** on account or out of the savings of Public Servants of non-Indian origin in India. This is an unknown quantity, but if we assume that there are in all 2,000 public servants in all the departments and governments of the Indian Empire, able on an average to save Rs. 10,000 per annum the total on this account would be Rs. 2 crores. This, of course, would be private savings quite apart from the leave, pensions and other allowances paid and included in the Home charges. For a Civil Service embracing over 1500 posts of an average salary of Rs. 20,000 per annum, mostly composed of foreigners in the superior better paid posts, not to mention the police, the medical, the ecclesiastical, the educational and other similar departments, the above estimate is exceedingly modest.

(c) Profits or savings of foreigners employed in business or working as doctors, lawyers, architects, engineers, etc., aggregating at an average of Rs. 5000 per annum on a total of 5000 such persons—once again an exceedingly modest estimate and under-statement—the total would amount to Rs. 2.5 crores per annum.

(d) Profits on capital working partly in India and incorporated outside India. These are mostly banks, shipping companies and commission houses. As the bulk of this has already been calculated and allowed for, we shall make no special allowance here on this head.

The total under this group is thus Rs. 48.75, plus 2, plus 2.5, equal to 53.25 crores.

V **Miscellaneous**:—In the miscellaneous group may be included all those remittances or withdrawals, on acount of Indian princes visiting foreign countries on pleasure tours; Indian merchants travelling abroad for business and enjoyment; and Indian students studying in European, American or Japanese centres of learning. Every year this item is growing in importance, since the visitors from India are increasing in number every year. But it is difficult to compute the exact expenditure under this group. A single visit of a prince like the Gaekwad of Baroda,—who habitually lives abroad on the handy excuse of his health—might be costing anything like Rs. 10 lakhs per annum or more. Twenty such visits in a year at an average cost of 2½ lakhs must total 50 lakhs. The spendings of the Indian merchant or of the business traveller must be on a far more modest scale; but Rs. 10,000 per 1000 such travellers—a reasonable and moderate estimate—would total 1 crore. The students are the most economical; but 3000 Indian students at an average annual cost of £. 300 in foreign countries, would make a gross drain on their account of some 135 lakhs in round figures. All combined, these items aggregate a gross drain of about 2 to 3 crores per annum. But we cannot take this as a net figure of deduction on this account, since there is a set-off of the corresponding spendings of foreign travellers etc. in this country, and the remittances received by the various Christian missions working in India, together with the savings of the Indian Coolie labourers abroad. Before the War, India was by no means a favourite haunt of the plutocratic pleasure-seeker, as Switzerland or Italy had become; and though since the War things have changed somewhat, the tourist traffic in India has not yet reached the dimensions when it could countervail the tourist traffic from India to foreign countries. Similarly, the mission monies received in India are largely spent on the foreign missionaries working in the country. Quite apart from the inherent offensiveness of all missionary-work to sensible, self-respecting Indians, the salaries and grants paid to foreign missionaries out of the foreign subsidies can hardly be considered to form an item of direct benefit to India. The only real set off, therefore, may be found in the remittances of Indian emigrants in British colonies and other foreign countries. Their lot is little distinguishable from that of slaves or beasts of burden; and their earnings are magnificent in proportion. The savings of these miserable earnings received in India in the form of remittances have been estimated at ½ million sterling or about ¾ crores of rupees. All these set-offs put together would not, generally speaking, equal the drain above detailed; but still, for the sake of erring on the safe side, if we take the two sets to be mutually cancelling each other, there would be no harm done.

The total deductions, then, under these five heads amount to Rs. 219.88 crores as follows:—

Political deduction or Home charges	Rs.	50.00
Interest on Foreign Capital Registered in India	,,	60.00
Freight and Passenger carriage paid to Foreign Companies	,,	41.63
Payments on account of Banking Commissions	,,	15.00
Profits etc. of Foreign business and Professional men in India	,,	53.25
Miscellaneous	,,	nil
TOTAL	Rs.	219.88

or a total first charge of 220 crores in round figures.

But this huge deduction of 220 crores does not at first sight appear in the trade figures, which are the ultimate source for the liquidation of all such international obligations. The trade balance of any given year may, indeed, escape showing these figures; but viewed over a series of years the trade balance cannot but include the debits and credits,—or the total net result of such claims and payments as between countries. The following figures give full particulars of all the visible items[1]:—

	Excess of Exports from India.	Home charges of the Govt. of India.	Net public Debt Incurred.	Treasure Imported.
	Figures are in Lakhs of Rupees.			
1904—05	53,31	29,20	5,21	22,97
1905—06	49,73	27,93	25,12	16,18
1906—07	59,72	28,92	6,25	38,86
1907—08	40,83	27.72	16.08	36,83
1908—09	24,35	28,38	8,45	16,42
1909—10	65,83	28,68	15,61	31,12
1910—11	76,26	29,37	13,54	32,61
1911—12	83,94	29,95	2,73	43,09
1912—13	79,69	30,42	4,35	51,20
1913—14	57,70	30,46	0,17	36,36
1914—15	37,24	30,31	4,09	16,52
1915—16	61,31	30,16	3,57	3,71
1916—17	87,11	31,72	11,56	32,03
1917—18	80,55	39,10	173,76	44,22
1918—19	66,76	35,44	11,47	62,36
1919—20	111,06	38,31	8,91	64,56
1920—21	81,21	46,44	52,34	8,59
1921—22	21,75	46,23	49,19	12,23
1922—23	69,86	46,52	25,30	52,21
1923—24	125,96	44,97	27,65	

Prior to the War, India had a favourable trade balance on an average of five years (1909-10 to 1913-14), of Rs. 72.6 crores per annum, against average amount of Home charges of Rs. 30 crores. This would leave a balance of 42.6 crores, which was further increased by the amount of debt increased in England, say Rs. 7.4 crores per annum, of a total balance of Rs. 50 crores which did not, however, all come to India. The precious metals received on account of this balance averaged 39 crores in round terms, leaving still a balance of rupees 11 crores roughly unsatisfied in favour of India. But this is not a correct balance. As pointed out in the previous section relating to deductions on account of shipping freights, the imports of India include freight, and are therefore overvalued to the extent of the freight; while the exports do not include freight, and are correspondingly undervalued to that extent, say roughly 4 per cent. of the declared or recorded values. To get the correct figure of the purely trade items we must reduce imports by 4 per cent. and increase the exports figures by a like amount. The imports of the quinquennium immediately preceding the War averaged according to the recorded values, Rs. 151.6 crores per annum, which reduced 4 p. c. would give a figure of 145 crores; while the exports, which averaged in the same period 222 crores per annum, similarly increased would give a figure of 231 crores. The real trade balance in favour of India would thus be Rs. 84 crores per annum, instead of 72 crores as given above. If we leave out of account the borrowed funds, which do not really add to the wealth of India but constitute an ever increasing mortgage on the resources of India, though they do affect the trade balance like so much exports, the real balance in favour of India, after allowing for the Home charges and Treasure Imports, would be Rs. 23 crores. If this did not pay the charges for Interest, profits, savings etc., the balance must be taken to be reinvested by foreigners in India.

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[1] These figures are taken : in the first column all except the last two years from the **Trade, Tariffs and Transport in India**, by K. T. Shah; and the last 2 years from the **Capital** dated May 8th, 1924. The second column is compiled from the **Sixty Years of Indian Finance** and the **Statistics of British India.**

In the War quinquennium the trade balance of exports and imports of merchandise averaged 66.6 crores which would be further increased to Rs. 82 crores on account of the freight factor explained above. In the War quinquennium the Home charges had practically vanished owing to the huge counter payments made on account of the British Government by the Government of India, and the trade balance was further inflated by the balance of these payments. The Treasure imports had been cut down, so that the whole of this balance remains to be accounted for, and may be explained by full payments of interest etc., to the foreigners.

At the present time (1923-24) the situation is this. Including and allowing for freight payment the trade balance in favour of India may be taken at 150 crores against which the claims upon India aggregate 178 crores. India thus remains a debter on the whole of some 30 crores per annum. The debt, however, is apparently not collected, but the amount is reinvested in the the country thereby adding still further to the permanent mortgage on Indian resources.

CHAPTER II

The Net Residue

HUMAN NEEDS OF LABOUR IN INDIA

1. **The Net Remainder.**—Reverting once again to the question on p. 205, whereby we have made out the formula that the total volume of material utilities produced or available in India in a year is about 2100 crores of rupees, at the price and production of 1921-22, the deductions we have so far considered must be further subtracted, as being over and above the amounts covered by the imports and exports of merchandise. This would leave a net total of a little under 1900 crores of rupees from which have to be met:—

(1) The charges of the Government in all its various aspects of the central, provincial, states and the local governing institutions. We have calculated the cost of Government, or rather the funds raised by Governments, to amount to Rs. 375 crores per annum, of which Rs. 50 crores represent Home charges, and therefore constitute a net, definite, final withdrawal from India; leaving still a public burden of 325 crores to be a charge upon the people—or upon the 1900 crores worth of utilities produced or available in India. The portion of the revenues of India which is returned to the people in one form or another—education, sanitation, agriculture and other scientific departments— may not quite justly be considered as a drain upon the resources of the wealth producers; for such expenditure is not only necessary, but it may be directly helpful in producing those very same utilities which constitute the sum total of the national income. It may be a difficult question whether the exact expenditure incurred is fully returned or compensated by the service or benefit received particularly as the results are so intangible. And it may also be added that even that portion of the public expenditure which is seemingly incurred on wasteful objects, like the Army in India, may have its own role in the production of the national wealth, since without the protection the defensive organisation of the country affords, without the guarantee of peace and order it ensures, it may not be possible to produce at all. The question as to the relation between the amount incurred on such expenditure and the benefit received is impossible to determine owing to the intangibility of the factors handled. It is thus erring on the safest side if we assume that the whole of the amount raised from the people by the demand of the State is spent so as to be returned to the people directly or indirectly,—less of

course, that portion of the public expenditure which is incurred abroad. The only point, therefore, which remains to be dealt with in this connection is the adjustment of the tax-burden to the resources or ability of the people, —a question dealt with more fully in the next chapter.

(2) The Transport and other charges necessary for the movement of the material commodities produced from the producer to the consumer. We have included the Transport charges on the commodities brought into the country from abroad, or sent out of the country, as well as on those commodities moved from one centre to another of the country by sea. The inland transport charges are included, to a very large extent, in the public revenue demand, since the bulk of the inland transport is done by the Railways, and the Railway Traffic Receipts are included in the revenue demands of the State. There is a comparatively small,—and relatively rather costly-section of the transport service carried out by the primitive methods of the country cart, or pack animals, or even human labour. But as a considerable portion of this service is rendered in all probability by the producer to himself, it is unnecessary to make allowance for it. For under the method of computation we have adopted here the service rendered by the producer to himself in the process of production or otherwise need not be evaluated and deducted. The relatively small proportion of this service rendered by non-producers is exceedingly difficult to evaluate; and in all probability it would be insignificant.

(3) The charges of the middlemen engaged in internal trade, and of all those subsisting on production without helping in its process. The middlemen's profits derived from foreign commerce have already been estimated and allowed for. The profits of the internal traders,—the village shopkeeper and the itinerant merchant,—the internal financiers and commission agents; and those of the landlords who own but do not cultivate land, as well as capitalists who loan out their money without utilising it

themselves for stimulating production, probably aggregate about 100 crores as follows:—

		Rs.	
1.	Interest on agricultural indebtedness estimated at Rs. 400 crores at 10 per cent.	40	Crores
2.	Profits of Village shopkeepers at Rs. 100 per annum per village (750,000 Village)	7.5	”
3.	Rent due to land-lords (on the assumption that an amount equal to that collected by the state in the form of Land Revenue goes to private land-lords, taking all the provinces of India together) [1]	35.0	”
4.	Profits of indigenous capital engaged in financing internal trade and Industry without the capitalist working for getting his income (about 100 crores at 10 per cent.)	10.0	”
5.	Miscellaneous profits of small merchants, house-owners etc.	7.5	”
		Rs. 100	”

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[1]

Provinces.	Area (1,000 acres). Raiyatwari.	Area (1,000 acres). Zamindary Permly. Settled.	Area (1,000 acres). Zamindary Temply. Settled.	Total Revenue.	Revenue Per head. Rs.	Revenue Per head. As.	Revenue (Rs. 1,000). Raiyatwari.	Revenue (Rs. 1,000). Zamindary Permly. Settled.	Revenue (Rs. 1,000). Zamindary Temply. Settled.
Bengal 1917—18	..	39,303	11,152	2,93,56	0	11	..	2,25,49	53,72
Madras 1918—19	61,462	29,586	..	6,80,57	1	10	5,97,17	83,39	..
Bombay 1920—21	44,804	..	3,912	3,45,64	2	5	No. Det.	..	No. Det.
Sind 1920—21	30,142	..	..	92,74	2	13	92,74	..	..
United Provinces 1921—22	..	7,432	60,391	6,99,58	1	9	..	57,76	6,41,80
Bihar & Orissa 1921—22	..	41,889	11,223	1,56,60	0	7	..	1,07,15	49,45
Punjab 1921—22	..	..	56,320	4,90,48	2	6	..	..	4,90,48
Burma 1921—22	1,52,921	..	..	5,37,14	4	1	5,37,14	..	..
Central Province 1921—22	1,23,631	..	40,437	1,23,68	1	2	No. Det.	..	No. Det.
Berar 1921—22	11,375	..	..	88,44	2	14	88,44	..	..
Assam 1921—22	25,768	3,931	1,819	95,81	1	5	80,37	376	11,66
N. W. Fr. Province 1921—22	..	..	8,438	26,86	1	2	..	..	26,86
Ajmere Marwara Province 1921—22	..	974	797	3,47	0	11	..	118	227
Delhi 1921—22	..	..	368	3,81	0	13	..	..	381
Coorg 1917—18	1,012	..	..	3,80	2	3	380	..	..
Manpur 1921—22	31	..	..	16	3	3	16	..	..
	339,886	123,115	194,857	36,42,34	Average 1—8		13,99,82	4,78,73	12,80,05

We shall have occasion to consider these divisions from another point in the chapter dealing with the Distribution of the National Wealth. Here it is enough to remark that this reduces the total of available material commodities by Rs. 100 crores, leaving to the producer a total of Rs. 1600 crores or 66 per cent. of the total gross production.

If we allow for a further reduction of 300 crores on account of public revenue demands, the net residue left with the producer would be about 54 per cent. of the gross production, the remaining 12 per cent. being presumably received in the form of intangible utilities like peace and order and security, education, sanitation etc.

2. THE HUMAN NEEDS OF LABOUR

Let us now consider what this means to the producer—what bearing the total of production has on the welfare of the producer. The food requirements alone of a full grown adult have been thus laid down by a recent author and authority:—

"A diet containing the requisite combination of alimentary principles for just maintaining health in a person of average height and weight, under exposure to a temperate climate and a moderate amount of muscular work. It must of course be understood that very considerable deviation from the proportions here named may be regarded as suitable for different constitutions; in some cases less of the proteids and more of the fats in others, more or less of the carbohydrates etc.

Dry Food.	In oz. (avoir.)	In Grains.	In Grammes.
Proteids	4.587	2,006	130
Fatty matter	2.964	1,296	84
Carbohydrates ..	14.250	6,234	404
Salts	1.058	462	30
Total ..	22.859	9,998	648

Thus about 23 ozs. form the quantity of dry solid matter contained in this standard diet, and a fifth of it is composed of nitrogenous matter. If we reckon that our ordinary food contains, say 50 per cent. of water, these 23 ozs. will correspond to 46 ozs. of solid food in the quantity in which it is consumed."[1]

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1. A treatise on Food & Dietetics, by F. W. Pavy, M. D., 2nd Ed., p. 452.

The following table gives an analysis of the chemical contents of the principal articles of diet in the world:[1]

Article.	Proteid.	Carbo-hydrates.	Fats.	Salts.	Water.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Wheat	12·42	70·53	1·70	1·79	13·56
Flour	10·80	70·50	2·00	1·70	15·00
Wheaten Bread.	8·10	51·00	1·60	2·30	37·00
Oatmeal.. ..	12·60	63·80	5·60	3·00	15·00
Maize	11·10	65·10	8·10	1·70	14·00
Rice	6·30	79·50	0·70	0·50	13·00
Legumes (Haricots & Lentils)	25·50	58·60	2·80	3·20	9·90
Tubers (Potato).	2·10	22·00	0·20	0·70	75·00
Roots (Carrots & Parsnips) ..	1·30	14·50	0·20	1·00	83·00
Milk	3·30	5·00	4·00	0·70	87·00

The food required by an individual varies not only according to his or her age, height, weight, and constitution in general, but also according to the climate under which the person is living and the work he is doing. The standard food requirement of 46 oz. as given above is, of course, for countries like England in the temperate zone, and for men with average amount of work or labour; this estimate may not, will not suit the tropics, as in India, where the climatic conditions enable men to do with a smaller quantity of food-heat, probably because they do a lower quantity of work. The researches in industrial fatigue have not in this country progressed far enough for us to say with any degree of definiteness what is the influence on the industrial labour required by the introduction of machinery in the modernised industries of India, and its consequent reaction on the food requirements. Much less has been the progress in our knowledge of nervous stress, strain and tension owing to the introduction of machinery, and the resultant reaction upon the food requirements of a population subject to this nervous tension. In any case, translating the food requirements in the common denominator of calories [1] Atwater has given us the following food requirements in terms of calories:—

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[1] This table is compiled from Food and Feeding, by Sir Henry Thompson, pp. 43-45. It is not quite the standard analysis of food-stuffs; and differs markedly from a similar table of cereals given in Dowd & Jameson's Food and its Preparation, p. 28.

Men at very hard work:	.. .. ..	5500 calories
,, ,, hard ,,	.. .. ..	4130
,, ,, moderate ,,	.. .. ..	3500
,, ,, Light ,,	.. .. ..	3150
,, ,, Sedentary ,,	.. .. ..	2700
Women ,, moderate ,,	.. .. ..	2700
,, ,, Light ,,	.. .. ..	2450
Men ,, Rest ,,	.. .. ..	2450

The conclusion of the Hoover Food Administration during the War, after collecting statistics of the entire quantity of food consumed in the States, was that the average American man consumes 3424 calories per day. [2]

Working on the advice of Dr. Pavis, quoted above, Sir Henry Thompson in his work on **Food and Feeding** has constructed the following standard dietary for an average man:—

Article	Weight. in ozs.
Bread	7 to 10
Butter, Bacon	3
Fish	4 to 5
Meat	7 to 8
Rice (Macaroni &c.)	4 to 5
Potatoes	4 to 6
Sugar	1
Green Vegetables & Fruits	4 to 6
Milk	¾ (Pint)
Water (Tea, Coffee &c.)	3 to 4 pints.
Eggs two or three.	
	34 to 44

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[1] "To estimate the amount food necessary to fulfil the first requirement, that of supplying energy, should be no more difficult than to estimate the amount of gasoline which an engine will use in running a certain number of miles. As the fuel value of a food is reckoned in terms of a unit known as the **Calorie**, it is most essential to know exactly what is meant by the term. As the number of calories required will vary with the body weight and the degree of activity, it will be necessary to know how many calories per pound of body weight, per day, will be used under these varying conditions. And finally, as the calories are yielded by the oxidisable foodstuffs, such as protein, fat, and carbo-hydrates it will be necessary to know the proportion of these present in the food materials, and to know how many calories a given amount of each will yield.

By a calorie is meant that amount of heat which will raise the temperature of one pound of water four degrees Fahrenheit.

The number of calories required by an adult has been found by scientific experiments to approximate the following:—

At Rest ..	13-14	calories per pound per day	For a man of 150 lbs. this would mean 2100 calories at rest, and 3450 calories at hard work."
,, Light exercise ...	16-18	,, ,, ,, ,, ,,	
,, Moderate ,, ..	18-20	,, ,, ,, ,, ,,	
,, Severe ,, ..	20-23	,, ,, ,, ,, ,,	

Dowd and Jameson's **Food and its Preparation** p. 140-41.

[2] "From all scientific data now available, as well as from the practical observation I would say that the most nearly ideal dietary standards of food quantities should be mid-way between the old Atwater standards and the minimum figures attained in Dr. Benedict's experiments. This should give us a figure of about 2500 calories per day for a man of average size at moderate work" (**Eating for Health and Strength** by McFadden, pp. 100-1.)

3. ACTUAL CONDITIONS IN INDIA

Let us next consider the actual conditions in India. In order to give as varied and comprehensive a picture as possible, we have appended below the scale of diet allowed in the:—

1. Indian Jails, giving details by provinces as well as the total for the whole country. The notes attached to the table will indicate the basis in each particular province; but as a rule the highest requirements are taken into consideration.

2. The Bombay Famine Relief system. Here the workers are presumably treated on a footing superior to that of the jail-birds, but the perception that famine relief is only a form of insurance, for which they have themselves paid the Premia, and not a charity, has yet to dawn upon the recipients of the relief.

3. The Indian Army—both the Indian as well as the European troops. These bodies of men are presumably the pick of manhood in India, and maintained in the highest degree of efficiency. The commentary that their efficiency is for a destructive rather than a productive purpose is beside the point in the present argument.

4. The Lascars or Indian seamen in sea-going vessels, as well as the European seamen. This scale has a value even beyond the comparative utility. It confirms what the army regulations and Jail rules indicate that the European is regarded per se as a superior being in India, and treated differently from the native of the country, to the prejudice, and at the cost, of the latter.

5. The working class in an industrial centre like Bombay. The merest comparison of the food available from their own means to these so-called free persons reveals the cruellest commentary on our modern commercial civilisation! The enemy of the society, incarcerated in its jail or its barracks, is far better off than the champion and supporter of society,—the industrial worker toiling in modern factories.

6. **European and other countries to the industrial working class.**

TABLE I

Food-allowance to Prisoners in the Indian Jails
Daily Average in ozs.

Diet Articles.	Bombay (*a*)	Bengal (*b*)	Bihar & Orissa (*c*) & the United Prov.	Madras (*d*)	Punjab (*e*)	Central Provinces (*f*)
1. Atta (wheat, Jowari, Bajri, Nagli flour)	24	..	13¼	15	..	11½
2. Dal (mug, tur, gram)	5	6¼	6¼	5	3½	5
3. Rice	..	26¼	16⅛	5	17	15
4. Maize or Millet ..	..	..	12½	..	10¼	..
5. Vegetables ..	8	6¼	6¼	8	8	6
6. Mutton (without bone)	5 oz. (once a week only).	..	..	..	..	..
7. Onions	¼	..	..	½	..	1/16
8. Condiments ..	¼	¼	¼	..	¼	¼
9. Oil	½	5/8	5/8	½	..	½
10. Fuel	16	25	25	..	12	16
11. Salt	½	7/8	7/8	¾	½	¾
Antiscorbutics ..						
Lime Juice or Tamarindpulp, Parwa or Roselle. Amchur ..	¼	1¼	3/8	½	..	1/8
Solid food	39	40½	55 7/8	34¼	39½	38½
Liquid food ..	½ (Oil)	5/8 (Oil)	5/8 (Oil)	½ (Oil)	..	½ (Oil)
Total in ozs. ..	39½	40¾	56½	¾ 43	39½	39

N. B. In all these averages anti-scorbutics are not taken into account.

Note :—(*a*) Scale of Diet given to native male convicts doing bona-fide hard work.

(*b*) Scale of Diet sanctioned for Indian Prisoners of the First Class (for Bengalis and Uriyas).

(*c*) Scale of Diet sanctioned for Indian Prisoners of the First Class (for natives of Bihar, U. P. & the Punjab).

(*d*) Scale of Diet sanctioned for Indian Prisoners (for European and Anglo-Indian Prisoners, the Daily average is 6 oz. more).

(*e*) Scale of Diet sanctioned for Indian Prisoners ; (for males above 16 sentenced to rigorous imprisonment).

(*f*) Scale of Diet sanctioned for Indian Prisoners; (for males employed on first and second class labour).

	Solid.	Liquid.	Total food.
General Average of all the Provinces.	41.5	.5	42 oz.

The Inspector General of Prisons in Madras, Lt. Col. J. P. Cameron C.I.E., I.M.S. replying to my inquiry on this subject was good enough to send me the following note prepared in connection with the Women's Work Exhibition held in Madras in November 1919:—

"I. **Jail diet.**	Minimum cost.	Maximum cost.
Males.	Rs. 0-2-7 in Bellary for a mixed diet with cholam.	Rs. 0-3-8 for rice diet in Tinnevelly.
Females.	Rs. 0-2-4 for a mixed diet in Bellary.	Rs. 0-3-4 for rice diet in Tinnevelly.

II. (a) According to the particulars, furnished by Superintendents of Jails, of the food of the free population at rates prevailing in the local markets, the rate for a family of poor people consisting of father, mother and three to four chidren, works out as shown below:—

		Cost per day		
Madras	Re.	0	12	0
Rajahmundry	,,	0	7	3
Bellary	,,	0	12	6
Trichinopoly	,,	0	12	8
Tinnevelly	,,	0	9	6
Coimbatore	,,	0	12	0
Cannanore	,,	0	11	0

Average Re. 0-12-0 or Rs. 22-8-0 per mensem.

II. (b) If a free man is to be given the scale of Jail dietary worked at rates prevailing in the local markets, the cost works out as follows:—

		Per day per man.		
Madras	Re.	0	3	11
Rajahmundry	,,	0	3	6
Bellary	,,	0	3	7½
Trichinopoly	,,	0	3	7½
Tinnevelly	,,	0	3	8
Coimbatore	,,	0	4	2
Cannanore	,,	0	4	1

Average Re. 0-3-10 for a man for a day.
do. ,, 0-11-6 for a family of father, mother and 3 or 4 children or Rs. 21-9-0 for a month.

[N. B.—At this rate the cost of food per man per annum would be Rs. 97-13-10.]

II. (c) The Jail rate works out at three annas for a day per head, or 9 annas for three adults, or Rs. 16-14-0 per mensem i.e., Rs. 4-11-0 less than that of the rate per month for the free population.

III. (a) The mixed diet in Jails with ragi or cholam contains more Nitrogen than the rice diet while the quantity of carbon is the same in both the diets.

(b) As the articles of dietary given to patients in the Municipal and other hospitals vary very much, no comparison can be made as to their nutritive value with the Jail hospital diet.

(c) In Jails children are kept with their mothers up to 2 years and only milk is issued if necessary. Rarely any expenditure is incurred on that account.

(d) The nutritive value of the articles of diet per head among the free population as compared with that of a prisoner's diet in Jail is shown below:—

	Per head of free population.		Per prisoner in Jails	
	Nitrogen.	Carbon.	Nitrogen.	Carbon.
Madras	256·3	5999·3	199.77	4639·30
			for rice diet.	
Rajahmundry	159·2	3279·3		
Bellary	289·4	6679·3	217·06	4639·30
Trichinopoly	260·6	6679·3	mixed diet with ragi	
Tinnevelly	220·1	5319·3		
Coimbatore	169·7	5253·6		
Cannanore	196·3	4526·6	211·47	4639·30
			with cholam.	
	1551·6	27736·7		
Average	221·65	5390·95		

IV. The Jail rates are the lowest as the articles are purchased in bulk at favourable seasons and stocked."

TABLE II

FOOD ALLOWANCE UNDER BOMBAY FAMINE RELIEF CODE, SECTION 73.

APPENDIX C

Wage Scale for Labourers on Famine Relief Works. (Extracts from the Famine Relief Code, Bombay Presidency, 1912).

The following wage scale shall be adopted on all public works:—

Workers.		
A. Gangers and special gangs	One pice more than Class B.	
B. Diggers	18	Chhataks[1]
C. Carriers	14	,,
D. Working children	10	,,
Dependants.		
E. Adults Male	12	Chhataks
E. Adults Female	10	,,
F. Non-working children over 10 but under 14 years.	8	,,
G. Non-working children over 7 but under 10 years.	6	,,
H. Non-working children under 7 but not in arms..	4	,,
I. Non-working children in arms	3	,,

The extra pice for Class A shall be subject to fine.

Note.—The wages in chhataks given above represent the 'grain-equivalent' of the ration. By 'grain-equivalent' is meant the amount of grain of which the value is in ordinary times equivalent to the total value of the various items of the ration, and this is computed to be 1¾ times the weight of the grain item itself. Thus, if 1 lb., were the weight of cereals allowed, the 'grain-equivalent' of the wages would be 1¾ lbs., or 14 chhataks. Therefore, the weight of the grain item can be arrived at by taking 4/7ths of the 'grain-equivalents'. For further particulars *vide* Report of the Indian Famine Commission, 1898, paragraphs 82 and 436.

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[1] Chhatak= 2 ozs. Thus 18 Chhataks=36 ozs. and 4/7 of this is 20·57 ozs. When converted into lbs. this comes to 1·29 lbs.

TASKS

For workers of class B—three-fourths of the task commonly performed by able-bodied labourers in ordinary times for earth-work and one-half of the task for metal-breaking.

For workers of class C—two-thirds of the standard task of class B.

For workers of class D—one-third of the standard task of class B.

TABLE III

Food-rations in the Indian Army

Field Service Rations: Daily Average

	Diet Articles.	British Troops.	Indian Troops.
1	Atta	.. ozs.	24 ozs.
2	Dal	..	3 ,,
3	Vegetables	8 ,,	16 ,,
4	Potatoes	10 ,,	2 ,,
5	Meat (fresh) or	16 ,,	8 ,,
6	,, (tinned)	12 ,,	..
7	Bacon	3 ,,	..
8	Bread	16 ,,	
9	Biscuits	..	..
10	Milk (tinned)	2 ,,	2 ,,
11	Tea	¾ ,,	½ ,,
12	Ghee	..	2 ,,
13	Oil	1 ,,	..
14	Onions	6 ,,	2 ,,
15	Salt	½ ,,	½ ,,
16	Sugar	3 ,,	2½ ,,
17	Jam	3 ,,	..
18	Fruits (dried)	2 ,,	..
19	Firewood	48 ,,	32 ,,
20	Lemon-juice	..	½ fluid oz.
21	Chillies, Garlic, Ginger, Turmeric	..	1 oz.

Extras: (in Winter only.)

1	Cheese	3 ozs.	..
2	Soup (concentrated)	2 ,,	..
3	Rum	4 fluid ozs.	2 ozs.
4	Pepper	1/7 oz.	..
5	Ghee	..	2 ,,

TABLE IV

Food Rations to Sea-men

Daily Average..............(Marine Rations)

	ARTICLES.	Crew under S. 25 of the Merchant Shipping Act of 1906	Lascars Govt. Resolution, Marine Dept. No. 193 of 22-3-22
1	Flour	4½ lbs.	10
2	Rice	1 "	22
3	Oatmeal	1 "	..
4	Dal	....	6
5	Potatoes	13¾ "	..
6	Dried or compressed vegetables	1 "	6
7	Peas Split	....	..
8	Peas Green	....	..
9	Beans Haricot	....	..
10	Salted Beef	7 "	..
11	" Pork	4½ "	..
12	Preserved meat	5 "	..
13	Fresh meat	....	1
14	Fish	1½ "	3
15	Soft bread	7 "	..
16	Biscuits	9 "	..
17	Milk condensed	5/7 "	..
18	Butter	1 "	..
19	Suet	9 "	..
20	Ghee	....	2
21	Sugar	3 "	1½
22	Jam or Marmalade	2 "	..
23	Tea or Coffee	6/7 "	¼
24	Syrup or Molasses	1 "	..
25	Onions	3/7 "	..
26	Pickles and fruits	1 "	..
27	Salt (fine)	2/7 "	½
28	Mustard, pepper & curry powder	1/9 "	..
29	Tamarind	....	1
30	Lime Juice	..	1
31	Water	Qts.	As much as required.

TABLE V

Daily consumption per adult male in lbs. as arrived at from 2,473 budgets of working class families in Bombay.

(HARD LABOUR) JAIL ALLOWANCE.

Cereals	1·29	lbs.	1·50	lbs.
Pulses	·09	,,	·27	,,
Beef & Mutton	·03	,,	·04	,,
Salt	·04	,,	·03	,,
Oils	·02	,,	·03	,,
Others: (including sugar, tea, milk, ghee	·07	,,	..	
Total ..	1·54	,,	1·87	,,

The consumption in all budgets varies, from ·91 lbs. of cereals per adult male per diem in the lowest class, to 1·53 lbs. in the highest class. [*Vide* **Working Class Budgets, Bombay, p. 20**]

N. B.—The average expenditure on food is 56·3 per cent. of the average family income in the Bombay working classes.

TABLE VI

[Table XXI of the Working-class Budgets—Bombay]

Group percentage expenditure in different countries
(excluding miscellaneous items)

Note.—The percentages refer to the pre-war period

Country.	Month and year.	Percentage expenditure on				
		Food.	Fuel and lighting.	Clothing.	House rent.	Total.
(1) India—Bombay.	July 1914	68·7	8·8	7·4	15·1(a)	100·0
(2) Japan—Tokyo ..	1914	55·1	9·4	11·3	24·2	100·0
(3) United Kingdom	July 1914	62·5	8·3	12·5	16·7	100·0
(4) France ..	1914	65·2	5 5	16·3	13·0	100·0
(5) Italy :—						
Rome ..	st half of 1914	67·1	7·8	11·0	14·1	100·0
Milan ..	Do.	69·0	5·0	13·3	12·7	100·0
(6) Norway ..	July 1914	58·9	6·4	15·5	19·2	100·0
(7) Sweden ..	Do.	58·1	5·4	16·2	20·3	100·0
(8) Denmark ..	Do.	59·2	6·2	16·8	17.8	100·0
(9) Germany (Berlin).	(b) August 1913 July 1914	42·4	8·2	25·6	23·8	100·0
(10) Hungary.	July 1914	45·3	7·5	19·0	28·2	100·0
(11) Australia ..	1913	57·4	6·3	19·0	17·3	100·0
(12) U. S. A. ..	(b) July 1914.	49·3	7·6	17·1	26·0	100·0
(13) Trinidad—						
West Indian ..	Pre-war	74·2	5·8	14·0	6·0	100·0
East Indian ..	Do.	76·9	6·1	10·8	6·2	100·0

(a) As compared with the rise in the prices of other articles the increase in house-rent paid by the working classes of Bombay is small in 1921. The amount paid for house-rent in 1914 therefore bulks more largely in the expenditure in 1914 when the total expenditure was much less than in 1921.

(b) These figures have been estimated in this office. The original figures for this country are given in table XX.

4. THE FOOD RESOURCES OF INDIA

The foregoing tables, if reduced to the simplest basis, would give us an average food ration of 35 ozs. to 40 ozs. per day per man. Let us take it at 2 lbs. or 32 oz. of food-stuffs. According to Mr. McFadden **(Eating for Health and Strength)** the dietary figures for women may safely be taken at 80 per cent. of males, or in this case about 28 oz. per day. India is largely a vegetarian country, from economic compulsion if not from ethical conviction; and so we would not be far wrong if we assume the above average daily ration of 2 lbs. of cereals for a full grown working man (at 15) and 28 oz. for a full-grown working woman as representing a fair average requirement under Indian economic as well as climatic conditions. There are in India

99,832,096 men over 15 years of age.[1]
94,657,077 women „ „
and
124,453,307 children under 15 years of age according to the Census of India 1921.

Hence

at 2 lbs. per day of cereals per man we want	33,277,365	tons
„ 1¾ .. „ „ woman „	27,044,879	„
„ 1 lb. .. „ „ child ..	20,742,218	„
or a grand total of cereal requirement	81,064,462	tons

Now the average (1900-1922) food grain resources of India are:—

(in million tons.)

Rice	32·3	less	2·2	exported
Wheat	8·7	„	1·3	„
Barley	3·3			
Jowar	7·2			
Bajra	3·5			
Ragi	3·2	„	1·0	„
Maize	2·5			
Grain	4·8			
Others	10·5			
Total ..	76·0	„	5·5	„

or a net available food grain supply in the country of 71·5 million tons per annum.

But out of the total production we must deduct 10%

by way of waste	*i. e.*	7·6	millon tons.
requirements for cattle	„	12·2	„ „
„ for seeds	„	2·0	„ „
and „ for exports	„	5·5	„ „
or a total deduction of	„	27·3	„ „

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[1] These figures of men and women are compiled from the Census Report for 1921. The Report itself gives only the number of men and women per 10,000 of each sex in given age periods only, the actual number having accordingly to be worked out. At 15 in India, if not much earlier the child ceases to be a child and becomes a full-grown worker, needing the full food requirement of the adult. Below 15, the average ration of 1 lb. per day is not excessive.

This gives us a total net available cereal supply in India on an average of 76.0—27.3 equal to 48.7 million tons against the total cereal requirements of 81 million tons odd. This leaves us with a deficit in food-supply only of 40 per cent.

By another calculation (see ante Book II p. 245) we have found that the cost of nourishing a human being on the same scale as a prisoner, that is the lowest scale of comfort consistent with keeping body and soul together, approximate Rs. 90 per annum, against a gross income per head of Rs. 75 at 1921-22 values, or an average value of Rs. 45 per head for the period 1900-1922! The deficit is thus very close under two altogether independent methods of calculation.

There is further point to be noted. If out of the gross money value of the per capita income in India, at the price level of 1921-22, we deduct the deductions mentioned in chapter I of this Book i.e. Rs. 7 per head, the income left per individual in India is Rs. 68 per annum! And the food cost alone at the lowest standard of calculation is Rs. 90 per head about the same time, or a deficit in food requirements alone of over 30 per cent.

The consequence is obvious and unavoidable. The Indian people are underfed. Either one in every three individual must go hungry; or,—what is much more easy, insidious and injurious—every one must cut one out of every three meals necessary to him. This inevitably becomes the common practice, and the consequence is the progressive deterioration in physique and energy that renders additional production with a view to make up for the deficit increasingly more and more difficult. The vicious circle is complete. The Indian people are, relatively speaking, debilitated and inefficient because they have not enough food available. They cannot have enough food—they cannot produce sufficient for their requirements on the lowest standards—because they are lacking in strength and energy!

5. THE FULL SIGNIFICANCE OF A LOW, INADEQUATE PRODUCTION

Another consideration necessary to fill in and complete the picture:

In the above calculation we have considered only the food requirements of the people of India. We have considered only the cereals, or the main foodstuffs assuming that in all subsidiaries like vegetables, fruits, salt, condiments, oil, milk etc., the Indian peoples get as much as they need,—an assumption not strictly nor universally supported by facts. We have also assumed, for simplicity of argument, that all classes of India suffer equally from the shortage of food-supply. In proportion as the wealthier classes get their requirements and a surplus besides, the pressure of the deficit upon the poorer—numerically the most important—classes is relatively much greater.

Leaving out these disturbing elements, we must still consider other inevitable demands on the gross income to get a proper idea of the adequacy of that income. Out of a gross total per capita income of Rs. 75 per annum we have already reckoned Rs. 7 per head as constituting the primary deduction by way of the political and economic drain upon the resources of India. We must next allow Rs. 11 per head (or Rs. 350 crores total state demand in the shape of revenues excluding the Home Charges) being the Government revenues of all kinds. This leaves to the citizen an income of Rs. 57 per head per annum, out of which, to find food, fuel, clothing, shelter and amusement. The working classes in Bombay spend about 56.8 per cent. of their total income on food on an average, the remainder being devoted to rent, fuel, clothing etc.,[1] as follows:—

Percentage expenditure of all working class Budgets and all incomes considered on :—

Food ..	57·0
Fuel & light ..	7·5
Clothing ..	9·0
House rent ..	8·9
Miscellaneous ..	17·6
	100.0

Assuming that in the country at large, and on average of the whole of India's population, the proportion spent on food is 66. 6 per cent. of the total income, and the remaining third is enough to cover all the other wants, we must face a further deficit of another 19 (or rather 25) rupees out of a gross total of 57 (or rather 75) rupees of income per head per annum.

Translated in other and more concrete terms this means:—That the average Indian income is so small that it is quite insufficient to meet even all the primary wants of man of food, clothing and shelter. Assuming that the last is relatively unimportant under Indian conditions, and that the first absorbs 2/3 of the total income, the remaining third being enough to cover all the rest, **the average Indian income is just enough either to feed 2 men in every three of the population (or give all of them 2 in place of every three meals they need) on condition that they all consent to go naked, live out of doors all the year round, have no amusement or recreation, and want nothing else but food, and that, the lowest, the coarsest, the least nutritious! Or, if**

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[1] Findlay Shirras's **Working Class Budgets—Bombay** paras 25 *et seq.* The same work gives the following analysis of percentage expenditure of mill-workers' families in Lawrence, (Mass.) as :—

Food ...	34·19	per cent.
Fuel and Light ...	7·35	„
Clothing ...	17·56	„
Rent ...	23·11	„
Sundries ...	17·79	„

they must meet all the other wants, and require some clothing, however primitive; some house-room however wretched; some distraction however primitive, they must consent to getting only one meal in place of every three they absolutely require,—or feeding one out of every three human beings in India. The latter is, in the long run, the more humane as well as the more economical method, but it will not, cannot, commend itself to a degraded and dehumanised nation. And it certainly does not suit the requirements of the governing class who owns this human property!

Further comment is needless!

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CHAPTER III

TAXABLE CAPACITY

1. THE TOTAL REVENUE BURDEN

We have referred more than once before in the previous chapters to the demand of public revenues, as constituting a deduction from the resources or the wealth of the people. In so far as all payments to the State or its representatives, deputies or delegates, are compulsory demands enforced by the whole might of the state and without option of refusal, they necessarily cause a proportionate diminution of the resources which the citizens can command for the satisfaction of their own wants. A proper, adequate idea of this diminution cannot, however, be obtained, unless we correlate the total amount demanded by the State, and its several deputies or delegates, with the aggregate amount of the citizens' resources. In doing so, we must take account, in the case of India, not any of the revenues collected by the Central Government, but also those by the several semi-autonomous provinces, the Municipalities, and District Boards, as well as the States under the independent government of their Native Princes. We must then allow for any source of revenue which can satisfactorily be proved to be derived not from the people as a compulsory exaction, without option to refuse; and must also consider that portion of the expenditure which may justly be taken to be a return to the people; and, as such, really a readjustment of the burden rather than an absolute charge. The allowances under these two heads, though necessary to obtain a just and precise notion of the burden on the citizens, will nevertheless not materially affect or alter the real pressure of that burden; whose exact corelation would much rather be obtained by a comparison of the total demand in each province with the amount of material wealth produced in each province, than by simply considering the figures in the gross.

According to the official Statistics of the Government of India, the total burden of the public revenues, and the aggregate expenditure, of the various governing authorities in India was thus constituted in 1921-22.

Authority.	Revenue.	Expenditure.
	Rs.	Rs.
Central Government	190,92,18,585	218,57,20,285
Provincial Government		
[1] Burma	10,12,19,234	9,98,15,675
Assam	1,95,10,000	2,36,89,000
Central Provinces	5,03,28,980	5,26,81,375
Punjab	8,77,41,908	10,82,09,116
United provinces	12,63,60,882	14,11,54,644
Madras	15,79,11,000	16,77,59,000
Bombay	15,16,72,000	14,71,85,000
[2] Bengal	11,03,42,000	10,24,20,000
Bihar & Orissa	4,45,51,000	4,96,66,000
Municipalities	27,51,06,136	27,08,35,758
[3] District Boards	10,23,22,957	10,65,42,889
Native States	75,00,00,000	75,00,00,000
Total	388,62,84,682	420,56,88,739

1. We have taken here the year 1921-22 in conformity with the basis in the First Part of this work ; but the figures for the Municipalities and District Boards are only for 1920-21, those for the later year being not available. The Provincial Budget having been separated from the Budget of the Central Government, since 1920-21, in all cases where we need to have an idea of the aggregate, it would be better to take the figures for 1920-21, as up to that year the accounts of the Government of India are inclusive. According to the later and more official position the Revenue collections for the Central and Provincial Governments in 1923-24 were:—

Foot-notes continued on next page.

Foot-note continued from previous page.

Revenue raised in the various Provinces of British India for Central as well as Provincial Government Account according to the Revised Estimates for 1923-24.

Name of Province.	Revenues collected on account of		Total Revenue Collection.	Provincial Expenditure.	Total wealth of the Province.	Total Population.	Incidence of Taxation Rs. per head.
	Central Govt.	Provincial Govt.					
	Rs.	Rs.	Rs.	Rs.	In Crores of Rs.		
Baluchistan ..	23,96,000						
N. W. F. Province ..	86,12,000						
Madras ..	11,18,38,000	16,58,55,000	27,76,93,000	16,39,58,000	151·911	42,318,985	6·56
Bombay ..	24,98,67,000	14,69,72,000	39,68,39,000	15,47,41,000	146·537	19,348,219	20·51
Bengal ..	27,96,74,000	10,15,01,000	38,11,75,000	9,86,78,000	189·635	46,695,536	8·12
United Provinces ..	3,44,24,000	12,97,61,000	16,41,85,000	13.02,92,620	215·638	45,375,787	3·61
Punjab ..	2,76,09,000	10,29,10,300	13,05,19,300	10,59,95,500	99·373	20,685,024	6·31
Burma ..	7,98,64,000	11,37,08,000	19,35,72,000	11,60,62,000	47·936	13,612,192	14·65
Bihar & Orissa ..	63,24,000	5,27,51,000	5,90,75,000	4,92,39,000	156·997	34,002,189	1·74
Central Provinces ..	96,47,000	5,26,07,000	6,22,54,000	5,24,07,000	80·851	13,912,760	4·47
Assam ..	43,93,000	2,20,54,000	2,64,47,000	2,15,58,000	44·915	7,606,230	3·47
		88,81,19,300					
India (General) ..	44,06,28,000						
England ..	4,42,25,000						
Exchange ..	2,01,03,000						
TOTAL REVENUE.	13196,04,000						

N. B.—The total Revenues collected on behalf of the Central as well as Provincial Governments from all sources thus are:—

(1) Central Revenues		Rs.	131,96,04,000
(2) Provincial „		„	88,81,19,300
(3) Railway „	not included in (1)	„	62,07,42,000
(4) Postal „	not included in (1)	„	9,21,84,000
	Total	„	292,06,49,300

Adding to these the Municipal, District Boards, and Native States collections, we get a net total of Rs. 392 crores in round figures.

2. The Revenue and Expenditure figures for the provinces are those of ordinary revenue receipts and expenses charged to ordinary revenue, excluding capital transactions, but including adjustments between the central and provincial Governments. In the case of Bombay, the figures are exclusive of the so-called Development Budget which amounts to a very considerable sum, and cannot now, strictly speaking, be regarded as an extraordinary, non-recurrent or capital transaction. The figures of expenditure serve to give some idea of the deficit, as well as a more accurate impression of the real burden. The provincial as well as the central revenues have been considerably added to by new sources of taxation, or increase in the old ones, e. g., the doubling of the salt tax in the Central Government, or the addition to the Stamp Duties in the provinces or the Introduction of a tax on Amusements. The total yield may not be materially different from the amount shown above, but the round figure of Rs. 400 crores per annum cannot be very much farther from the exact state of affairs respecting the total state demand in India.

3. The Revenue and Expenditure of the Native States are, indeed, guess-work, the basis for which has already been indicated—ante p. 211.

The revenues of the central Government of India consist of:—

Heads.	Amount.
	Rs.
Customs	34,40,98,381
Taxes on Income	18,74,13,424
Salt	6,34,37,848
Opium	3,07,24,798
Land Revenue	33,18,286
Excise	53,80,399
Stamps	24,61,081
Forests	19,68,643
Registration	1,70,705
Tributes	87,17,807
Railways	81,93,00,954
Irrigation	5,94,141
Posts & Telegraphs ..	9,55,03,001
Interest	1,11,00,700
Civil Administration ..	77,29,211
Currency & Exchange ..	4,37,42,093
Civil Works	11,33,782
Miscellaneous	7,18,56,875
Military Roceipts	8,06,93,832
Provincial Contr.	12,98,72,704

Of these, what are tax heads and what are not ? In other words, which items are a real burden upon the community, and which are not ? The classification of the Government of India regards only the first ten items as the Principal heads of revenue, which however are not all taxes borne by the people of India ; and the remainder they imply to be non-revenue receipts, though they also contain an element of taxation. Thus opium revenue, as shown in the accounts of the Government of India, is really the profit of a public monopoly, the real burden of which is borne not by the people of India but by the foreign consumers of the Indian Opium.[1] Similarly, Tributes from the Native States is not precisely a tax on the people of British India, being derived from non-British territories. As, however, we are, in this work, considering the whole of India collectively, we cannot exclude this item, since, if the amount of the tributes does not represent a tax on the British Indian people, it is at least a burden on the non-British Indian people.[2] As regards the receipts from Interest, they are mostly book-entries, being amounts credited to the Central Government by the provincial local or state Governments for monies borrowed from the Supreme Government. The amount is not strictly a tax burden, but is raised by one or the other authority in India by way of taxation to meet the demands of the Central Government. We may, however, exclude it from a strict calculation of the tax burdens of the Indian people. The Mint receipts, a most varying item, result from the vagaries of the Indian currency system, whose want of fixity causes a double injury to the Indian people:—once in their trade and industry, and again in their private and public obligations outside India. It is an inevitable irony of calculations like these that even such items—in spite of their doubly injurious or burdensome influence,—have to be excluded from a strict tale of the regular burdens of the people of India. Military and civil departmental receipts are mostly fees, which, are almost indistinguishable from compulsory payments strictly called taxes. The miscellaneous item has been considerably inflated of late, owing to the sale of surplus stock from the War purchases and as such may be ruled out of the sum total of regular burdens. In the case of the so-called commercial services of the Railways, the Post-Office, and the great public irrigation works, we have taken the gross receipts, and not the net income after deducting the working expenses as is the practice of the Government accounts, for reasons already explained. In these cases the charges are really tax-burdens, and not payments for services rendered, since the idea of the service to the consumer is neither the only nor the determining factor in framing these charges; which the Government habitually alter to suit the exigencies of their exchequer, and not to meet the needs of the consumers of these services; and which, besides, being monopolies, leave no option to the consumer even to forego the service without a grave and irreparable, incommensurate injury to his own resources.

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[1] The revenue derived from the consumption of Opium in India is shown under Excise, and as such goes mainly to the provinces under the new system of the division of finances between the Central and the Provincial Governments in India.

[2] For this and the other items that follow, and for a general distinction between tax revenues and non-Tax Revenues, cf. **Sixty Years of Indian Finance** pt. III. by K. T. Shah.

Excluding the Opium, Interest, and receipts under the head of Currency, Mint and Exchange, we find the total remaining items still aggregating Rs. 190 crores in round figures.

The Provincial revenues of nearly 90 crores are practically all derived from taxation, the most important of which are: Land Revenue (35 crores) Excise (20 crores) Stamps, Forests and Irrigation Dues. Similarly, the revenues of the Municipalities and District Boards are largely tax-revenues [1] while those of the Native States may be taken entirely as Tax-revenues.[2]

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[1] The following analysis compiled from the Statistical Abstract of Municipal Revenues and those of the District Boards makes the item of taxation relatively much smaller; figures are for 1920-21.

[Footnote continued on next page.

[2] For this footnote, see page 260.

Revenues of Municipalities.

Item.	Amount.
	Rs.
Municipal Rates & Taxes	
Octroi	1,94,01,103
Tax on House & Land	2,53,53,803
Tax on Animals &c.	26,76,635
„ Professions	26,46,539
Tolls on Roads &c.	25,77,902
Water-Rate	1,32,11,135
Lighting-Rate	18,93,137
Conservancy Charges	75,21,789
Other Taxes	48,37,981
Total Taxes ..	8,01,19,024
Income under Special Acts:—	
Income from Pounds	14,19,660
Rent of Land &c.	32,28,125
Sale proceeds of land	50,28,512
Conservancy Receipts	11,13,016
Markets & Slaughter houses ..	67,54,927
Education fees	10,44,902
Other Fees	39,96,222
Fines	6,89,273
Govt. Grants	93,49,006
Other „	16,50,190
Miscellaneous	1,18,62,977
Sale of Securities	3,68,69,700
Loans from Govt.	81,05,619
„ Individuals	1,06,43,456
Realisation of Sinking Funds ..	34,54,781
Advances	1,51,95,818
Deposits	7,45,59,573
Grand Total ..	27,51,06,136

Revenues of District Boards.

Item.	Amount.
	Rs.
Provincial Rates	3,62,24,384
Civil Works	1,69,39,636
Other Sources	4,91,58,937
Total ..	10,23,22,957

There is a dearth of detail in this instance which is most regrettable. The total burden of local governing institutions may be taken to be in the neighbourhood of 25 crores annually.

The total burden thus works out in round figures, at:—

Tax collections of:—	Rs. in Crores.
Central Governments	290
Local „	25
Native States	75
	390

Of this amount Rs. 14,88,50,302 are really in the nature of capital receipts, which cannot quite be considered as strictly tax-burdens. The amount, moreover, coming as loans from Governments would be derived from provincial taxation, which we cannot include under municipal taxation, without incurring the error of a double counting. The real municipal income is thus about Rs. 13 crores.

[*Footnote, from previous page.*

2 The details of the revenue resources of the Native States are most difficult to obtain. Some of them, like Mysore or Hyderabad, have large public works, Railways, Post Office and other Industrial concerns, which yielded an income to the states of the same type as that derived by the British Indian Government from corresponding sources. Land Revenue, Excise, Stamps, and Customs form other principal sources in all states and on a rough calculation may be ranked in the following order:—

Land Revenue	Rs.	30	crores.
Excise	„	10	„
Stamps	„	10	„
All other sources	„	25	„

Allowing for these deductions, (18 crores) and, taking into account the deficit between revenue and expenditure (32 crores), we may take it that the total burden on the people of India is, in round figures, Rs. 400 crores per annum.

On a total population of 320 million people, again in round figures, this works out at Rs. 12½ per annum. [1]

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[1] The official Statistics of the Government of India gives the burden of taxation at Rs. 3-10-3 per head in 1920-21 excluding the Land Revenue, and Rs. 4-14-2 per head including the Land Revenue. (*Vide* Statistical Abstract for 1911-12 to 1920-21 p. 196). But in this calculation they have included only Salt, Stamps, Excise, Customs, Income Tax and Registration as constituting taxes proper, with a hesitating addition of the Land Revenue as an after-thought. The system is as inaccurate as it is faulty.

2. A BRIEF ANALYSIS OF THE

This however is the gross burden. If the public expenditure may
ought **pro tanto** to be reduced. The following table represents a decennial
as well as provincial combined, which gives a fair idea of the total outlay

Heads of Expenditure	1911—12	1912—13	1913—14	1914—15
	Rs.	Rs.	Rs.	Rs.
Direct Demand on the Revenues	13,00,52,606	12,97,99,564	13,91,18,961	13,40,89,953
Interest	3,05,66,023	2,71,58,031	2,27,34,789	1,78,68,850
Posts and Telegraphs ..	4,65,36,052	4,69,87,693	4,90,94,761	4,88,58,948
Mint	17,47,600	21,35,152	19,89,449	21,25,231
Salaries and Expenses of Civil Departments	24,69,92,497	25,03,31,320	26,90,12,981	28,36,49,652
Miscellaneous Civil Charges ..	7,34,82,347	7,38,93,479	8,10,57,065	7,96,70,751
Famine Relief and Insurance..	1,50,00,000	1,50,00,000	1,50,00,000	1,50,00,000
Railways	18,15,59,333	18,85,26,515	19,25,41,521	20,46,16,721
Irrigation	4,76,23,245	4,95,28,914	5,29,78,006	5,63,14,029
Other Public works ..	8,18,10,727	9,09,56,533	10,51,50,563	10,76,58,138
Military Services	31,35,24,550	31,42,96,502	31,89,86,474	32,71,44,044
Total Expenditure, Imperial and Provincial	1,16,88,94,980	1,18,86,13,703	1,24,76,64,570	1,27,69,96,317
Add	2,12,10,407	6,77,10,756	48,85,383	..
Deduct	66,74,153	..	91,28,676	5,28,52,283
Total Expenditure charged against revenue	1,18,34,31,234	1,25,63,24,459	1,24,34,21,277	1,24,41,44,034

Note.—1. This table represents the state of affairs upto 1920-21. As already
collectively, and as such give a general idea of the outlay of Indian public monies, which in-
statement is quite acceptable.

2. In the case of Railways the above figure does not give the working
The amount is quite considerable, being Rs. 25,89,45,724 in 1911-12 and Rs. 54,52,84,348 in

Rs. 65,66,78,003
" 66,33,85,000
" 66,51,50,00

fairly be considered to be a return in some sort to the people, the burden
statement of the public expenditure by the Government of India, central
made by the Government of India of the revenues they collect.

1915—16	1916—17	1917—18	1918—19	1919—20	1920—21
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
14,20,10,557	13,99,30,020	14,78,20,437	17,68,06,827	18,39,41,662	22,50,21,450
1,78,55,454	1,76,22,958	10,99,22,532	12,19,06,342	13,40,85,193	16,37,62,392
4,72,45,202	5,16,20,803	5,35,15,945	5,96,24,310	7,13,43,666	9,43,66,774
13,40,590	25,11,174	25,10,727	45,87,146	51,41,084	28,69,400
28,30,23,227	28,62,18,444	31,28,30,512	35,53,23,226	38,71,92,012	45,55,93,177
7,69,30,122	8,12,14,088	8,87,80,608	9,43,91,649	9,81,46,988	11,24,84,715
1,50,00,000	1,50,00,000	1,50,000,00	1,50,00,000	1,71,00,716	1,50,00,000
20,85,24,969	20,74,78,822	21,34,10,785	21,59,12,139	22,62,26,771	19,37,65,251
5,58,16,410	5,32,48,674	5,67,72,578	5,92,02,425	6,41,13,327	7,01,79,256
8,17,75,910	6,92,78,026	7,57,24,403	8,47,78,065	10,69,81,244	12,79,01,898
35,25,46,402	39,85,01,358	46,14,54,745	70,24,53,159	91,03,00,483	94,04,24,879
1,28,20,68,873	1,32,26,24,367	1,53,77,43,272	1,88,99,85,328	2,20,45,78,146	2,40,13,69,187
50,35,659	3,59,59,533	3,38,49,351	1,71,59,322	1,10,68,419	7,66,34,510
30,71,566	..	29,63,527	9,72,354	42,53,421	6,77,34,416
1,28,40,32,966	1,35,85,83,900	1,56,86,29,096	1,90,61,72,296	2,21,13,88,144	2,41,02,69,281

stated, the year 1920-21 is the last for which the Central and Provincial accounts are stated
the subsequent years it becomes relatively difficult to trace. For our purposes, this

expenses, which have been deducted before the receipts were credited on the revenue side.
1920-21. The working expenses have been considerably increased since then, being
in 1921-22
in 1922-23 R. E.
in 1923-24 B. E.

3. CENTRAL EXPENDITURE IN DETAIL

Going a little more fully into the details of the total public expenditure, we find the Central Expenditure to be distributed in recent years as follows:—

Heads of Expenditure.	Accounts 1921—22	Accounts 1922—23	Revised Estimates 1923—24	Budget Estimates 1924—25
	(In lakhs of Rupees).			
Direct Demands on Revenues ..	527·12	522·04	560·92	554·12
Railways:				
Working Expenses	6566·78	6596·16	6096·00	6643·04
Surplus Profits paid to Companies ..	106·40	69·40	111·42	114·87
Interest on Debt	1563·48	1634·47	1737·98	1900·69
„ „ Capital contributed by Railway Cos.	335·17	335·55	311·79	280·09
Annuities	507·83	513·39	488·36	577·65
Sinking Funds	43·35	47·13	47·61	....
Subsidised Companies	7·19	9·43	7·41	16·00
Miscellaneous Rly. Expenses ..	....	20·99	16·72	22·45
Railways Total ..	9130·20	9226·52	8807·29	9544·79
Irrigation:	14·48	13·75	16·51	22·85
Posts & Telegraphs:				
Working Expenses	898·50	890·85	950·57	953·13
Interest	56·81	59·16	63·60	71·00
Capital Expenses charged to revenue ..	109·19	17·82	50·98	82·00
Total Posts and Telegraphs ..	1064·50	967·93	964·19	942·13
Interest on Debt and Sinking Fund ..	1599·70	1615·89	1674·88	1832·51
Civil Administration charges ..	940·80	994·32	957.10	980·28
Currency Mint & Exchange ..	107·48	103·09	105·32	77·31
Civil Works	154·20	134·81	161·11	206·50
Miscellaneous (including Pensions) ..	344·13	520·56	480·13	488·73
Military Services	7787·98	7100·58	6393·72	6300·16
GRAND TOTAL ..	216,70·59	212,99·49	201,21·19	209,49·38

Hardly a single one of these items can be considered as a return to the people calculated to aid in and add to the production of their wealth. It is quite another matter whether or not these various items of expenditure are necessary or indispensable, for the continued existence and maintenance of civilised life, in this country, either in the actual or on a modified basis. It is also indifferent to our present inquiry—and for that only—whether, without a civilised government—and, therefore, without the expenditure detailed above, unproductive as it is,—any production can at all take place. Here we are concerned simply to inquire whether any portion of this expenditure helps to increase production, as seed or machine may be said to do; or whether any part of this outlay is returned to the people from whom it is raised. And our general answer is that very little, if any at all, of the above 200 odd crores, spent every year by the Central Government of India, can be said to be returned to the people.

Take the case of the greatest single item:—military expenditure. The total outlay on the Defence of India is shown in the latest Budget at some 63 crores, including expenditure in England on account of the Army etc. of India. This is a considerable reduction from Rs. 78 crores in 1921- 22, no doubt. But as it stands, the military expenditure does not show the full total of the charges of defence. In the first place it ought to include, in mere fairness, that portion of the Interest on the Public Debt of India, which has been incurred on account of the Army, or for the exigencies of national defence and military organisation. The Debt outstanding on the 31st of March 1914 was £. 183.19 millions plus Rs. 175.10 crores, with a total net annual charge of £. 1.19 million or Rs. 1.78 crores. Speaking in the Legislative Assembly on the 1st of March 1923, the Finance Minister, Sir Basil Blackett said:—

> "As a result of the deficit of the last few years and of the War, India's debt has grown from a total of 411 crores on the 31st of March 1914 to an estimated total of 7.81 crores on the 31st of March 1923. This figure includes the floating debt and the early maturing debt of which I have already spoken, but it excludes no less than 63 crores of obligations which it is I find the practice to treat separately from the debt of India, though as far as I can see these obligations are just as much a part of India's debt as the rest. . . . .
>
> Since 1914, the total debt has increased by 370 crores and the unproductive debt by 227 crores." (Budget Speech of 1st March 1923, para 23).

In the year 1923-24 in which Sir Basil uttered this grave warning, another addition of about 47.7 crores was made to the Debt of India by the Central

Government, and twenty crores again in the following years as Budgetted[1]. **The total provision for Debt services in the Budget of 1924-25 is as follows:—**

Interest on Debt	Rs. 35,02,90,000	
Less Interest on Rys.	,, 19,00,69,000	
,, ,, ,, Irrig.	,, 12,41,000	
,, ,, ,, Posts &c.	,, 71,00,000	
,, ,, from Prov. Govt. ..	,, 4,46,08,000	
Net charge of Ord. Debt.		Rs. 10,72,72,000
Interest on other oblig.		,, 3,64,06,000
Sinking Fund.		,, 3,95,73,000
	Total ..	Rs. 18,32,51,000

The whole of this amount Rs. 18.32 crores ought at least[2] **to be added to the army account,** since the entire debt, for which this is an interest charge, has been incurred for military purposes, either directly to finance the perennial Wars of the Government of India, or indirectly to make up for deficits caused by military exigencies. **This will make a total for the military Budget in 1924-25 of Rs. 81.32 crores.** But this is not all. We must also add to this total the loss in the working of those railways which have been constructed mainly if not wholly for military purposes, or for the alleged requirements of national defence. The single North Western Railway showed a loss in 1922-23 of Rs. 2.54 crores, and was budgetted in 1923-24 to show a further loss of 1.97 crores, while in 1921-22 the actual loss was 4.07 crores. Taking the average loss at 2.84 crores, and adding the same to the military budget, **we find the total Defence Budget amounting to Rs. 84.16 crores,** on a total net revenue of Rs. 130.09 crores, or 64.6 per cent. of the total revenue.[3]

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[1] Sir Basil showed the total public Debt of India on 31st March 1924 to be 967·18 crores including the Treasury Bills in the Paper Currency Reserve, which, with the 20 crores of new loan budgetted for in 1924-25, will make a gross total of our public debt at 987·18 crores.

[2] We say at least, because we do not add here the amount of capital borrowed for the construction of military and frontier Railways, the interest on which is included in the Railway account, but which in justice ought to be shown under the army account.

[3] cp. A Memorandum to the Indian Retrenchment Committee by K. T. Shah.

The following table compiled from the **Statesman's Year Book for 1922** gives the proportion in 10 countries—five of the British Empire and five outside:—

Country.		Total Revenue	Total Expenditure	Defence Exp.	per cent. of 2 to 3	per cent. of 2 to 4
		[Figures in Millions]				
INDIA,	Rs.	1332·2	1423·9	919·0	70.7	63·8
U. K.,	£	1426·9	1195·4	642·0	45·0	53·7
Australia,	£	61·78	64·60	31·20	50·0	48·3
Canada,	£	89.38	74·19	17·9	20·0	24·2
S. Africa,	£	29·67	25·69	13·4	4·5	5·2
Spain,	Pesetas	1976·66	2550·79	450·36	22·8	17·6
France,	Francs	22450·9	24932·0	5027·0	22·4	20·0
F. Italy,	Lire	17603·0	20454·8	3553·77	20·0	17·3
United States	Dollars	3345·18	3143·41	1201·44	35·9	38·2
Japan,	Yen	1319·20	1399·29	646.40	49·0	49

NOTE —The figures are all in millions. In the case of Canada it includes half the total debt charge. The French figures include the ordinary and extra-ordinary Military and Naval Budgets, but do not include the debt charge, which would make the total to be 17,553 million Francs or 78 p.c. and 70 p. c. respectively.

Of the total military services, expenditure in England amounted to:—

		(In crores)
1922—23	Rs.	18·16
1923—24	„	18·20
1924—25	„	15·03

which, of course, can in no way be regarded as returned to the Indian people. The rest of the expenditure on military services was distributed as follows:—

HEAD.	Accounts Estimates. 1921—22.	Revised Estimates. 1922—23.	Budget Estimates. 1923—24.
	[In Lakhs of Rupees.]		
Effective: Maintenance of the standing Army ..	31,54.57	30,59.03	31,30.55
Cost of Education	11,86.56	838.43	872.92
Head Quarters, Staff Commands etc. ..	250.64	203.81	202.82
Stock Account	732.55	273.94	311.41
Special Services	840.35	501.06	142.11
Miscellaneous charges	109.57	244.73	185.64
Total. ..	48,09.16	45,73.12	42,22.66
Non-effective Services (India)	365.55	589.32	548.27
Marine (Total Expenditure)	131.11	102.53	71.46
Military works	518.29	498.76	418.05
Grand Total in India. ..	58,24.11	57,63.73	52,60.89

Of this amount, according to the Inchcape Committee, the salaries and allowances in the Army, Marine, Royal Air Force and Military Works, amounted, in 1922-23, to Rs. 26.99 crores, of which British Officers and other ranks got Rs. 19.66 crores and the Indians Rs. 7.33 crores, officers, and men inclusive.[1] If the remaining charges are divided in the same proportion, (which would be quite unfair to India in such items as stores etc.,) the total amount received by Indians in 1922-23 from the military Budget would be Rs. 16 crores at most, out of a gross total of 75 crores on that item in that year.

The following summary of the general criticism on the Indian Military and Defence expenditure, compiled from the Memorandum presented to the Indian Rentrenchment Committee presided over by Lord Inchcape in 1922-23, has lost none of its force, though the document was originally prepared in 1923.[2]

In offering criticism on the Indian Military expenditure, we must necessarily confine ourselves to political and financial considerations. Such a course is likely to render much of our criticism nugatory to those who urge the plea of efficiency; for we are unqualified to judge of technical questions of military organisation and efficiency. Our only defence against what might be alleged to be one-sided criticism is: military efficiency is a relative term which must be determined in the case of each country by a combined consideration of its needs of defence and the resources that it can fairly devote for the purpose. There is always a point beyond which considerations of mere military defence pass out of the stage which has always been tacitly reserved for the professional soldier and his governing idea of fighting efficiency. The larger problems involving expenditure of large sums of money and the disposition of troops in relation to possible enemies must certainly not be decided on the fiat of military experts. For these matters affect the State as a whole, and as such, must be looked at from the civil or financial, as well as the military or efficiency standpoint. Again military efficiency, as all such ideas, is a frequently changing quantity, of which we in India have had painful experience. What one commission of military experts lays down as the ideal to be striven for may be knocked on the head by another equally "competent" body of "experts." In the one great war of the last 60 years—the Afghan War of 1878-80—the results were far from establishing the unchallenged and unchallengeable supremacy of the Indian Army. The whole story of the frontier warfare shows the same net result.

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[1] In 1922, on the authority of the same committee, out of a total Army Force of 2,33,801, Indians numbered 1,55,155 or about 2 to 1.

[2] cp. the Memorandum to the Indian Retrenchment Committee submitted by the Central Labour Board, Bombay and prepared by K. T. Shah. See also the Sixty Years of Indian Finance by the same writer.

Leaving out technical considerations, and confining ourselves to principles, we find the objects of maintaining an army in India to be variously stated by the Simla and the Esher Commissions on the Indian Army as follows:—

> "The purposes for which the Army of India must be maintained may be stated to be (a) preventing or repelling attacks or threatened aggression from foreign enemies beyond our border; (b) making successful armed disturbance or rebellion, whether in British India or Feudatory States, impossible."—**Simla Army Commission.**

The Esher Committee has laid down no definite purpose for the maintenance of the Army in India. But they observe: para 21, Part III of the Report:

> "The functions of the Army are to repel external aggression and to maintain internal security. For the proper discharge of the latter duty it must keep in close and constant touch with the civil authorities who share the responsibility of maintaining law and order."

Elsewhere, the Esher Committee wrote, in a covering letter of their Report:

> "We cannot consider the administration of the Army in India otherwise than as part of the total armed forces of the Empire. Novel political machinery created by the peace treaty has enhanced the importance of the Army of India relatively to the Military forces in other parts of the Empire and more particularly to those of the British Isles."

But these principles, or their implications, are fundamentally unacceptable. The Army in India must be exclusively an army for Indian Defence **so long as no part of its cost is borne by the Imperial British Government.** And even on the agreement that on occasions when any part of the Indian Army is used for Imperial purposes outside the frontiers of India, its expenses shall be defrayed wholly by the part of the Empire making such a use, we do not think it just to ask India **permanently** to maintain a standing army far in excess of her own national requirements, and thereby incur a far larger outlay for extraordinary and Imperial Defence. If the strength of the Army in India is strictly limited by considerations exclusively of Indian national defence, and its cost is reduced in proportion, India would not need a standing, regular Army, fully equipped for war, and organised to take the field at any moment, of more than 150,000 **men of all ranks and arms.** Even if the unjust and unnecessary principle of keeping not more than 2 Indian soldiers to 1 European is maintained, this would mean 50,000 British troops and 100,000 Indian troops. At the exaggerated cost of Rs. 2,100 per each

European soldier, and Rs. 500 per each Indian, per annum, the cost of such a standing army would be:—

British section	Rs. 10,50,00,000
Indian section	Rs. 5,00,00,000
Total	Rs. 15,50,00,000

The help India has rendered to England in the last war must be a convincing, though costly, proof of India's loyalty to the Empire. It would have been all the more graceful if the representatives of the Indian people had in reality been free to vote such a handsome contribution of their own accord.[1] As this was a contribution wholly beyond the means of India, and utterly unjustifiable by any similar contribution made by Britain to enable India to finance her own struggles on the border, the whole charge of the extra debt incurred for and during the great war and after must be transferred from the Indian to the British Revenues. This is not charity but mere justice.

The last and the most important criticism against this change in policy is that—even admitting its wisdom and necessity—it imposes unfair, disproportionate burdens on India. If the annexation of the frontier territories be an object of the Indian Army; if the maintenance of the balance of power in Asia is desirable—these are objects imposed upon us by Imperial considerations, which are, to say the least, as beneficial to England as to India. Of the total military strength of the British Empire, India has supplied the largest proportion and borne the largest share of such expenditure, after England. The advantage of such armies is common to the Empire, though its greatest benefit is to England. Why then should England not bear a share of such increased expenditure on the army maintained in Imperial interests?

India, it is true, does not ostensibly bear any cost of the Navy beyond her annual contribution of £100,000. But Britain maintains a navy primarily and entirely for her own needs. She depends for her very existence upon foreign commerce, and she believes a strong Navy—once on a two power basis, but, since the birth of American rivalry, on a single power standard —to be the best means of securing for herself "The Freedom of the High Seas" in the British sense of that expression. The only test of the British

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[1] £ 100 million were given as India's War contribution on the motion of the Finance Minister in 1917. The non-official members of the Viceregal Legislative Council had no answer to the logic of this *fait accompli*. This was in March 1917; in September 1918 another contribution of £ 45 million was similarly voted, but this time it was by a resolution in the Imperial Legislative Council which, in the then state of the Allies, the non-official members dared not oppose. The War has increased India's permanent military charges by about 50 per cent. over the Pre-War level.

Navy being a common, Imperial asset is its use equally for every part of the Empire. We venture to think, that Britain would, however, no more think of using her navy for the defence of outlying parts of the Empire than Rome used her legionaries for the defence of the provinces, when the Huns and Goths thundered at the gate of Rome herself. The skin is always nearer than the shirt. Besides, even when Britain employs her navy for any part of the Empire, she does not do it purely out of Imperial philanthropy. There is no room for charity in politics, nor in finance. Britain may use the Navy to preserve her Imperial **amour propre**; and will certainly do so to keep her foreign commerce. But for this it is absurd to ask India to bear a share, or, in the alternative, maintain a larger army than she needs.

Geographically and politically India is so situated that we cannot conceive of India needing naval assistance from Britain for the exclusive benefit and defence of this country. Should she chance—against all probabilities—to attract enemies from across the seas, she has a seaboard so effectually dominated by the ghats and protected by the deserts, that she need not apprehend any serious danger on that score. And, as for her maritime commerce, though considerable, it is not entirely to her own benefit. The customers of India are more interested in keeping open the commerce of India, than she herself. There is thus no ground to regard the Indian Military expenditure as in any way a substitute for or set-off against the absence of a naval budget in India.

We appreciate, however, the value of a navy for scientific purpose and for affording a training ground. We would, therefore, consent to a small beginning being made for an Indian Navy, provided (1) that it is wholly built, equipped and manned in India; (2) that a fair proportion of the extra military charge is taken over by Britain (3) and the Indian regular, standing army is reduced just to the national requirements of India. In that case the Army charges would be reduced by Rs. 35 crores, while we may have to incur a recurring naval outlay of Rs. 5 to 7 crores a year, or a net reduction of at most Rs. 28 to 30 crores.

Taking next the actual details of military organisation of India, the obsolete principle of maintaining a definite proportion of the British to the Indian troops in the army in India, is productive of double evil. It arbitrarily restricts the total man-power of India, capable, at a pinch, of being utilised for the defence of India, by the available surplus of professional fighting men in the British Isles. And, secondly, since the British soldier is four times as costly as the Indian soldier, it makes the smaller, non-Indian section of the Army more costly than the Indian section.[1] The absence of a peace establishment for defence, as contradistinguished from the full war strength, also makes for a proportionately much greater cost and a far lower efficiency; while the relatively insignificant proportions of Reserves in India tend to the same end. The army in India is thus as expensive as it is useless; and the service alleged to be rendered by that instrument to the Indian people is clearly out of all proportion to its cost.

The next considerable item is **Interest on Debt.** The position of India in the matter of public indebtedness has been stated for the latest date (31st March 1924) by the Finance Minister as follows:

"The total debt of the Government of India on the 31st of March, 1924, will be constituted as follows:—

		Lakhs of Rs.
In India:	Loans	3,58,79
	Treasury Bills in the hands of the public	2,13
	Total in India..	3,60,92
In England;	Loans	3,64,22
	War contribution ..	28,90
	Total in England..	3,93,12
Unfunded :	Post Office Savings Banks ..	24,87
	Cash Certificates ..	8,51
	Provident Funds &c. ..	39,97
	Total unfunded..	73,35
Add the capital value of the liabilities undergoing redemption by way of annuities amounting, on 31st March 1924, to £ 60,095,485..		90,14
	Total Debt..	917,53 [2]

This total does not include, as the Finance Minister himself observes, Rs. 49.65 being the value of the Treasury Bills held in the paper Currency Reserve. Nor is the idea of the total indebtedness of India quite complete without adding to the above gross figure Rs. 20 crores, being the amount budgetted for borrowing in the financial year 1924-25. The gross total would be Rs. 987.18 crores, or close upon 1000 crores. The charge for the same is distributed, **in the latest Budget**, as follows:—

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[1] See the Report of the Indian Retrenchment Committee. Appendix C & D. A British officer costs per annum between Rs. 14277 and 11294; a British soldier between Rs. 3529 and Rs. 2502. An Indian officer costs at most Rs. 2524 per annum and an Indian soldier Rs. 631.

Budget Speech, para 27 (1—3—24).

	(1924-25 Budget Estimates) Paid in	
Item.	India. Rs.	England. Rs.
Interest on Railway Debt	12,41,63,000	6,59,06,000
Irrigation Debt	12,21,000	
Post Office Debt	71,00,000	
Provincial Governments..	4,46,08,000	
Interest on Ord. Debt	2,28,88,000	8,43,84,000
Interest on other obligations	3,63,06,000	1,00,000
Reduction or avoidance of Debt ..	99,31,000	2,96,42,000
Interest on Capital contributed by Ry. Companies	4,70,000	2,75,39,000
Railway Annuities		2,97,56,000
Railway sinking Fund	16,00,000	
Total Rs.	24,83,07,000	23,73,27,000
Grand Total	48,56,34,000	

Of this total interest payment we can scarcely say, with any degree of accuracy, that the amount paid in India remains in India, while that going out of the country is wholly lost to India. For the debt held in India, on which the interest is paid in India, may, for ought we know, be held by non-Indians, the interest whereof may eventually be exported from the country. We cannot, for the same reason, make a rough general calculation at a given rate of interest, and say the interest on rupee debt remains in India wholly and permanently, and that on the sterling debt goes out of the country once for all. Probably not more than 20 crores out of a gross total of 48 odd crores remains in the hands of the Indian creditors of the Government of India.

The following critique of the expenditure on debt services, compiled from the **Memorandum to the Indian Retrenchment Committee** already referred to may be interesting to read in this connection.[1]

THE ORIGIN OF INDIAN DEBT

The public debt of India—both the supposedly productive and the admittedly unproductive—as it exists to-day, is the creation of British rule in this country. The total debt at the close of the Company's era was Rs. 63.555 crores, every pie of which was incurred for the conquest of India. On the transfer of Government of India to the British Crown in 1858, this debt, together with a payment of £12 million by way of compensation to the East India Company proprietors, was saddled upon the Indian government. India has, therefore, paid for her own conquest and made a net present of her Empire to the British Crown. In strict justice, India could not have been called upon to pay this debt. As England had conquered India for her own benefit, and while she has been enjoying the benefit of the conquest, she should in fairness have paid the cost of that conquest. The Ordinary debt, which may be taken as equivalent to unproductive debt, was rightly regarded as insupportable and therefore steadily reduced, as the following figures show, in the years before the War.

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[1] *Ibid* p. 39-46.

Year	Debt in crores.	Year.	Debt in crores.
1888	Rs. 109·5	1908	Rs. 56·1
1893	,, 97·5	1913	,, 37·5
1898	,, 105·2	1914	,, 19·2
1903	,, 88·7	1915	,, 3·3

The ordinary, unproductive, floating and funded debt has increased during the ten years after 1914 from less than 20 crores to nearly 300 crores —all due absolutely and exclusively to the European War.[1] As India has always been made to pay for the wars on her frontiers, even though they were waged in British Imperial interests; as India has even been made to pay for conquests for Britain within her own frontiers, the justice of the increased war debt has no foundation at all. True, a portion of this debt is due to a "gift" made by India to Britain. But the gift was neither freely made by representatives of India, nor were they consulted **eo nomine** before the decision to make the "gift" was arrived at. Indian representatives had not even the right to acquiesce in such a procedure, and merely associate themselves even passively. Such a "gift", therefore, made without the consent or concurrence of the donor, cannot possibly be held to be binding in honour or equity or law upon the donor. We have already pointed out, besides, that there is nothing in the history of the relations between India and England which could support such a ruinous "gift" from India. And though another part of this debt is incurred to meet the increasing permanent charges in the military department, the increase is so clearly the result of a change of standpoint as regards the objects and purposes of maintaining an Indian Army, that we think the other portion of the debt is also undistinguishable, essentially speaking, from the War debt. We consider, then, that the debt of Rs. 150 crores making up the War gift, plus the excess over the 1914-18 standard of the military Budget, amounting to over 150 crores or more, should not, in justice and economy, be charged upon India.

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[1] The Finance Minister, in the passage cited above, puts down the unproductive debt at Rs. 228·45 crores. But his method seems to be faulty.

We are, indeed, perfectly aware of the seriousness of our proposals. We recognise the force of solemn public engagements to bondholders of the government, and admit the gravity of suggesting expedients or devices for securing justice to India without impairing the integrity of the Government of India or the value of its engagements. But the course we have suggested rests as much on the ground of justice as on considerations of political expediency. The contribution of India in winning the War is not limited by the "gift" above mentioned. She raised and employed for active military service nearly a million men of whom over half 552,000 were sent overseas. Including non-combatants, the total contribution of India has been 14,57,000; of them 943,000 have served overseas, with 1,06,594 casualties. India subscribed heavily to the loans raised in England particularly investing large sums in the British Treasury Bills out of her Paper Currency Reserve thereby not only weakening her currency position but deliberately creating the temptation which in 1920, in less than six months of Reverse Councils sales, cost us 35 crores. In strictness this loss ought to be made good by the party who had received the benefit of such assistance, and for whose sake our currency policy was arranged. But we do not make any demand for such a restitution, not because we doubt its justice, but we are unwilling to rake a most unpleasant chapter of grievous mistakes, and their bitter memories. We do not even ask for a restitution of the sums actually paid by India since 1917-18 by way of interest on a debt, which we should never have incurred. Finally, we make no mention of the numberless restraints on our trade which during the war prevented us from getting as much as our produce had a right to expect from the fortuitous combination of favourable circumstances raising the world price. No one has made, perhaps no one can make, a calculation to show the loss India suffered owing to those war restrictions. But the following figures of our exports give a total of nearly 2000 crores of export trade, which, assuming that the War restrictions served to depress

Year Exports.	In crores of Rs.
1914-15	182·17
1915-16	199·48
1916-17	247·31
1917-18	244·89
1918-19	255·32
1919-20	332·75
1920-21	265·93
1221-22	219·01
Total	1946·86

(The 1921—22 figures are for 11 months only.)

the price against India by 5 per cent on an average,—and that after the War the exchange policy penalised the Indian exporter in a still worse manner—we come to an actual loss suffered of nearly 100 crores. This is an extremely modest and moderate estimate, since it does not and cannot take into account those indirect methods of penalising the Indian exporter e.g., of restrictions of Bank credit and rise in exchange, and reduction of Council sales since 1916. But even this modest figure, taken along with the loss suffered by the sales of the Treasury Bills to meet the ruinous Reverse Council drafts, and the amount paid by way of interest and sinking fund on the so-called Contribution of 150 crores, make up a total loss of 180 crores as follows:—

	In crores.
Loss due to War Restrictions on exports	Rs. 100
„ „ „ Reverse Council Sales ..	„ 50
„ „ „ Interest & Sinking Fund Charges on 150 crores @ 6 p. c. for 5 years	„ 30
	Total Rs. 180

This is the least figure of loss actually suffered by India, over and above the contribution in men and money she has made for winning the War in which she had no personal interest and benefit. We do not ask for a compensation for this loss; and think there ought to be no difficulty in adopting the expedients we have suggested for summarily reducing the burden of the unproductive debt as we think best.

MEANS TO REDUCE THE ORDINARY DEBT

The fairest and noblest, the truly Imperial and strictly honest means would, of course, be for Britain to take over that portion of India's debt which has been incurred on her behalf and for her benefit. Relatively speaking, it would be less than a flea-bite—a total of some £200 million at most, which in a country having a debt of nearly £8000 million, would make no real difference. Britain has had to accept the **fait accompli** of the Russian obligations having been repudiated to the tune of £567.92; and we see no reasonable probability of the other countries—France, Italy, Belgium, Roumania, Greece, Portugal—paying their debt of £1134.444 million—or even the amount equal to the one owed by the United Kingdom to the U. S. A. Under these circumstances, would it be unreasonable for India to demand that her national debt held abroad, and equal to £200 millions be either taken over by Britain, or, in the alternative, India be allowed to write off that debt? Sooner or later, some policy of cancellation of international indebtedness would have to be adopted, in view of the world's finances and of the crying need to restore the crippled nations of the world. Whenever that policy is adopted, and debts are repudiated or cancelled, the ultimate sufferers will unavoidably be the private individuals, who, trusting to the credit of the State, have lent beyond the paying capacity of the borrowers. We are, indeed, not unaware of the degree of injustice involved in our suggestion—at least while we accept the ground plan of our present commercial ethics for the organisation of society. But we think it is a kind of surgical operation which will have to be adopted to save the world from a greater ruin and a more lasting collapse. It will be most easily performed by Britain, since she is a sovereign power free to adopt any measure, from increasing Income taxes and making a Capital Levy to a complete cancellation of the debts due to her own nationals.

If England should refuse to shoulder this portion of the Indian debt incurred for the benefit of England, the latter must at least support the Indian Government in drastic measures for a summary reduction of the debt.

As Indian finance is organised to-day, the Government of India cannot levy even its ordinary income-taxes from that section of its creditors who hold the sterling debt. Nearly £250 million of our public debt is immune from the Income Tax of the Government of India. The British Government deducts its Income tax from the interest to its bond-holders, whether resident within the British jurisdiction or not. Why should not the Indian Government be allowed the same privilege? The income from the public debt of a country is "Earned," if the phrase can be applied in this connection without a mockery, in the country which has borrowed the money and pays the interest. By every principle of ethics as well as economics, India ought to have a right to tax her creditors resident outside the jurisdiction of her Government as much as Britain has. At the present rate of the Indian Income tax of 18 pies in the rupee, or 9 3/8 per cent. the net tax on our foreign held sterling debt would not be less than Rs. 2 crores per annum.

But a much more effective alternative, or rather, in my judgment, concurrent remedy, is the extention of the Income Tax to those sections which, under the existing regime, escape it altogether by aid of law. If the agricultural incomes, which now escape taxation altogether, are taxed in the same manner as the industrial and the commercial incomes, after allowing for the necessary margin of subsistence as being utterly exempt from taxation, the probable gain to the revenue would be from sixteen to twenty crores of rupees. The present income from the Land Revenue to the various Indian provinces is about Rs. 36 crores (1923-24). On a basis of the tax representing a twenty per cent. charge upon the gross income from land, this represents a total taxed agricultural income of Rs. 180 crores. But the tax is levied, if at all in its modern, approvable form, and therefore subject to periodical revision, only on certain areas in some of the provinces, while the rest are permanently settled and owned in large estates by private owners, whose income and all increment therein are utterly free from taxation, and have been so for more than hundred years. The income thus escaping taxation cannot be less than another 180 crores at least.[1] Taxing this on the correct principle of progression, with the necessary discrimination in the rate of the tax as between earned and unearned income, there can be gained an easy increase of roughly twenty crores, which, after allowing for a diminution in income resulting from the exemption from taxation of those agricultural incomes which are below the subsistence level, will still leave a margin of about ten crores per annum to the good. Death Duties and other similar charges of a direct nature may further improve the revenue resources of the state, provided always that these efforts at improving the revenue resources are made as part of the general scheme of economic development of the country. The main point sought to be made clear in this connection is, that though the debt of India presses heavily upon the resources of India, those resources are capable of expansion by a judicious and sympathetic handling, which would readjust the incidence of the burdens and make the balance of parts more even.

In conclusion, it may be added that the method of comparing the total debt charge with the total national productivity is utterly unsuitable, misleading, and likely to suggest the most fantastic results. For a nation like the United Kingdom, with an annual wealth of £3,500 million, the total national debt of £7500 million may really mean lighter burdens to the people of that country, than a total debt of 1,000 crores in India on a total national income or productivity of 2500 crores. For the public, registered, recognised debt of India is only a fraction of the total real indebtedness of India, which probably is nearer 2500 crores and the charge on that, which the producer has to bear, is in all likelihood not less than 250 crores. A part, and that not a large one, remains within the country, in the shape of interest paid to the capitalist on his loans to the agriculturist or the industrialist and to the state. But a much greater part goes out of the country altogether, and thereby renders the problem of the national indebtedness of India far more peculiar and difficult than the problem of the corresponding nature in other independent and self-governing nations.[2]

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[1] *Vide* on the relative areas of permanent and temporarily settled land as well as the incidence per head in each province, *supra* p. 239.

[2] At the Indian National Congress Session of December 1922, a resolution was passed, admitting and accepting the debt incurred till that moment, but refusing to accept any liability incurred by the Government of India in future. This resolution was probably no more than a kind of political rocket. In fact, however, the Indian nationalist thinkers seem to be getting perfectly aware of the dangers of steadily increasing indebtedness; and, in a private conversation with the present writer, Mr. M. K. Gandhi declared that the Indian people are not bound to accept any liability for the debt forced upon the country during the war and on account of it.

RAILWAY EXPENDITURE

In the Railway expenditure we have already considered and disposed of the charges under the head of INTEREST, which, together with the share of the surplus profits payable to the non-Indian companies entrusted principally with the management of the Indian State Railways, leaves a very small portion of the amount spent on that account in India. Let us next consider the working expenses. According to the Indian Retrenchment Committee, the following items constitute the principal heads of the working expenses:—

A	Maintenance of Way, Works and Stations	Rs.	14,59,53,000
B	Locomotive Expenses	,,	23,07,63,000
C	Carriage and Waggon Expenses	,,	9,09,12,000
D	Traffic Expenses	,,	9,64,03,000
E	General Charges	,,	4,23,11,000
F	Steam Boat Services	,,	25,94,000
G	Special and Miscellaneous Expenditure	,,	4,22,02,000
H	Other items	,,	4,80,000
	Total	,,	65,06,08,000
	Other Railways	,,	2,92,42,000
	GRAND TOTAL	,,	67,99,00,000

A further analysis of the items above enumerated may serve to give a more detailed idea of the Railway expenditure.

Item A consists of—General Superintendence charges, Maintenance and permanent Way, Repairs of Bridges, Conservancy of Rivers, Repairs of Stations and Buildings, New Minor Works and the unclassified charges.

Item B consists of—General Superintendence, Running Expenses, Fuel, Water, Oil, Tallow and Stores, Maintenance and renewal of Engines, of Motor Cars, of Tools, Plant and Machinery, New Minor Works, Payments to other lines and the unclassified charges.

Item C consists of—General Superintendence, Repairs and renewals of Vehicles, and of Machinery, Tools and Plant, Cleaning and Oiling, New Minor Works and the unclassified charges.

Item D consists of—Salaries and Wages, Fuel, Lighting, Water and Stores, Clothing, Printing, Stationery, and Tickets, Delivery and Collection Charges, Miscellaneous Expenses, Payments to other lines, unclassified charges.

Item E consists of—General Administration, Salaries of Indian Management, Police, Advertising, Telegraph, Indian Charges on Stores and the unclassified charges.

Item F consists of—Working of Vessels, Repairs and renewals, Fuel, Miscellaneous Stores, Steam Traffic Agencies, New Minor Works, and Miscellaneous charges.

Item G consists of—Law Charges, Compensation, Rates and Taxes, Payments to other lines, Prizes for Station Gardens, Contribution to Provident Funds, Gratuities and Miscellaneous.

Of these items, practically only the salaries and wages of the Indian Staff in all the departments of the Railways remain in India, the rest being really a share of the spoils taken by the Non-Indian interest. The element of salaries there is in almost every one of the above-named branches of Railway outlay, but the total salary bill is difficult to state in the classification we desire. The total Railway Staff, their wages and salaries, may be given as follows from the Railway Administration Reports.

Year	Europeans	Anglo-Indians	Indians	Total	Total Payments
1913-14	7,986	10,437	614,882	633,305	14,00,51,159
1920-21	7,281	11,940	729,789	749,010	26,68,02,862
1921-22	6,858	11,831	735,789	754,478	28,90,20,439
1922-23	6,880	12,201	734,391	753,472	28,94,99,305

In other words, nearly 45 per cent. of the total goes in wages and salaries. But of this amount of close upon 30 crores, the Europeans and Anglo-Indians, though numerically a very small proportion of the Railway staff, must be getting half,—at least half—of the total Railway wage-bill, being so far practically the monopolists of all superior offices in the Railway Department. But to err on the safe side, not more than Rs. 20 crores out of this amount (at Rs. 250 per annum per head of Indians in the Railway employ) could be left in India out of the total Railway wages-bill.[1]

The items of Railway expenditure, Fuel and Stores, must be ragarded as being of no real benefit to the Indian people. Most of the Railway stores and material are ordered from abroad, while though fuel is of late bought in India in increasing quantities, the Indian collieries are so largely owned by Non-Indians, that the payments to them are of no profit to India and the Indians.

POSTS AND TELEGRAPHS

The **Post Office** Expenditure is mainly for Salaries and Wages, of which probably 5 crores of rupees might be remaining in India.[2]

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[1] The attempt to Indianise the Railway service in all departments, though commenced by a Resolution of the Legislative Assembly in February, 1922, must take time, even if we assume that the powers that be are honestly and whole-heartedly in favour of rapid and wholesale Indianisation.

[2] Cp. The Table appended to the chapter on Occupations in the all India Census Report for 1921 for the number and classification of the employes in the postal service.

Of the remaining items of central expenditure, the Direct Demands on revenue are really an excess collection of revenue under the various heads. In the Civil Departments, Pensions and allowances, the Indian share cannot be more than 9 crores out of a total bill of close upon 15 crores. [1]

Summing up the above, we may say that of the 210 crores, in round figures, spent now-a-days by the Central Government, the net amount returned to Indians, (and therefore remaining in India) by way of Interest, salaries and allowances is roughly:—

Salaries &c. in the Army	Rs. 16	crores.
„ „ Civil Dept.	„ 9	„
„ „ Railways	„ 20	„
„ „ Posts	„ 5	„
Interest on Debt held by Indians	„ 20	„
TOTAL ..	„ 70	„

The Remaining 140 crores being a net charge uncompensated by any material return.

5. DETAILS OF PROVINCIAL EXPENDITURE

The principal constituents of Provincial Expenditure in 1923-24 (Revised Estimates) were:—

Province.	Direct Demand	Irrigation rev. a c.	Irrigation cap. a c.	Debt.	Civil Administration.	Civil Works.	Miscellaneous.	Prov. Contr.
	(In Thousands of Rs.)							
Madras	47,24	39,62	69	45,46	44,80	18,87	94,88	48,00
Bombay	2,85,27	89,93	30,00	1,59,15	6,68,78	1,14,71	1,43,55	56,00
Bengal	84,56	37,97	8,26	5,96	6,87,23	98,44	75,99	29
U. P.	1,44,06	* 57,39	4,08	28,30	6,43,43	75,51	1,10,13	2,40,00
Punjab	82,78	1,02,59	....	33,05	4,98,54	97,05	70,39	1,75,55
Burma	1,79,58	*1,27,36	11,00	21,03	5,03,22	2,12,56	80,32	67,61
Bihar & Orissa ..	47,15	24,69	59	3,34	3,14,34	62,14	39,84	30
Central Provinces ..	93,72	26,01	....	2,29	2,33,64	68,50	77,75	22,14
Assam	* 34,16	1,76	....	66	1,05,70	39,92	18,38	15,00

* The items marked above with the asterisk include the Railway Account, both revenue as well as capital, in the Provinces particularised.

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[1] cp. The Indian Retrenchment Committee Report p. 423, Appendix B to Part X.

It is well-nigh impossible to say how much of this—a total of nearly 90 crores in round terms,—eventually returns to the people in the shape; directly of salaries, etc., to the children of the soil, and indirectly in the shape of the benefits or services rendered by the various developmental departments in the charge of the provincial governments since 1920. The proportion for the similar question in the case of the Central Government (i.e., 70: 140 or 1: 2) would mean, in the case of the provincial outlay, a return to the people of 30 crores and a drain of 60 crores for the benefit of the alien bureaucracy. Perhaps this would be unfair in the case of the provinces, at least since 1920, since they have now-a-days a greater latitude for developmental purposes. But even if we take the proportion of return to drain as equal, the real benefit to the people concerned from the activities of the provincial governments would not exceed Rs. 45 crores per annum and is in all probability much less.

On this reasoning, the total benefit, from public expenditure of all kinds, to the people of India would amount to:—

In Salaries &c.	(Central Government)	Rs. 70	crores per annum
,, Services ,,	(Provincial ,,)	,, 45	,, ,, ,,
,, ,, ,,	(Local Gov. bodies)	,, 25	,, ,, ,,
,, ,, ,,	(Native States)	,, 60	,, ,, ,,

or a total of 200 crores out of a total tax collection or state burdens of close upon 400 crores per annum. The remaining 200 crores is a drain on public account, out of which we have already allowed for Rs. 50 crores (Home charges) and Rs. 10 crores (for the Native Princes Tours, etc.), so that we must now allow for a further deduction of **Rs. 140 crores** exclusively on account of India being ruled by a foreign bureaucracy.

6. THE REAL INCIDENCE OF TAXATION IN BRITISH INDIA

The preceding analysis, however, does not give an exact view of the actual incidence or pressure of taxation in India. In the present section, we have attempted to give a picture of the real tax-burdens and compare them to the wealth of the provinces—as well as the population (according to the census of 1921) concerned. The summary table which follows is supported in the Appendix by the detailed calculus of the wealth of the principal provinces.

Revenues raised in the various Provinces of British India for Central as well as Provincial Government Account according to the Revised Estimates for 1923-24.

Name of Province.	Revenues Collected On Account of		Total Revenue Collection.	Provincial Expenditure.	Total Wealth of the province.	Total population.	Incidence of Taxation. Rs. per head.	Proportion of the wealth of different Provinces taken by the central and Provincial Tax collections put together.
	Central Govt.	Provincial Govt.						
	Rs.	Rs.	Rs.	Rs.	In Crores of Rs.	Rs.	Rs.	per cent.
Baluchistan..	23,96,000	..	..	..	..	..	..	..
N. W. F. Province.. ..	86,12,000	..	..	..	..	..	..	..
Madras	11,18,38,000	16,58,55,000	27,76,93,000	16,39,58,000	151·911	42,318,985	6·30	18·26
Bombay[1]	24,98,67,000	14,69,72,000	39,68,39,000	15,47,41,000	146·537	19,348,219	20·51	27·18
Bengal	27,96,74,000	10,15,01,000	38,11,75,000	9,86,78,000	189·635	46,695,536	8·16	20·16
United provinces	3,44,24,000	12,97,61,100	16,41,85,000	13,02,92,620	215·638	45,375,787	3·61	7·60
Punjab	2,76,09,000	10,29,10,300	13,05,19,300	10,59,95,500	99·373	20,685,024	6·31	13·00
Burma	7,98,64,000	11,37,08,000	19,35,72,000	11,60,62,000	47·936	13,212,192	14·65	40·31
Bihar & Orissa	63,24,000	5,27,51,000	5,90,75,000	4,92,39,000	156·997	34,002,189	1·74	3·76
Central Provinces	96,47,000	5,26,07,000	6,22,54,000	5,24,07,000	80·851	13,912,760	4·47	7·70
Assam	43,93,000	2.20,54,000	2,64,47,000	2,15,58,000	44·915	7,606,230	3·47	6·14
India (General)	44,06,28,000	..	..	..	..	..	..	..
England	4,42,25,000	..	..	..	..	..	..	..
Exchange	2,01,03,000	..	..	..	..	..	..	..
Total Revenue	131,96,04,000	..	..	..	..	..	..	..

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[1] The Bombay figures of Revenue and Expenditure do not include the Development Budget, which would add about 15 crores on either side, and so make the total tax-collections in Bombay amount to nearly Rs. 55 crores. The per capita charge in that case would be Rs. 55 and the proportion of the provincial wealth taken by taxation would be 38 p. c.

APPENDIX

An Estimate of the Agricultural and Industrial Wealth of the Principal Provinces of British India

(Quantity and Total Value figures are in Millions)

Commodities		Bengal	Bihar and Orissa	Madras	Burma	U. P.	N. W. F. Prov.	C. P. and Berar	Assam	Bombay	Sind	Punjab
Rice ..	Quantity Mln. Tons	7·9	6·9	4·8	4·2	2·0	..	1·4	2·5	1·1	0·4	..
	Price per Ton Rs.	162	156	196	82·6	239·5	..	167·4	143	246	332	..
	Total value Mln. Rs.	1303	1101	961	350	474	..	236	366	265	132	..
Wheat ..	Quantity Mln. Tons	·03	·48	..	..	2·80	0·25	0·80	..	0·47	0·19	3·2
	Price per Ton Rs.	189	200	..	..	170	141	178	..	246	264	148
	Total value Mln. Rs.	5·7	96·0	..	..	483·0?	35·25	145·30	..	118·7	50·2	479·0?
Raw Sugar	Quantity Mln. Tons	0·24	0·29	0·24	..	1·21	0·04	0·02	0·03	0·24	0·24	0·29
	Price per Ton Rs.	227	227	256	..	256	304	256	248	399	399	256
	Total value Mln. Rs.	56·0	67·0	61·0	..	309·0	11·0	5·5	7·5	98·0	98·0	76·0
Tea ..	Quantity Mln. Tons	80·9	0·3	10·0	0·1	2·2	..	..	224·0	..	..	1·6
	Price [1] per lb. Rs.	..	..	..	..	..	..	..	..	..	..	..
	Total value Mln. Rs.	18·7	0·7	2·3	0·2	0·5	..	..	52·0	..	..	0·4
Cotton ..	Quantity In Bales of 400 lbs. Rs.	0·24	0·01	0·37	0·04	0·33	0·01	0.91	0·01	1·22	0·08	0·44
	Price per Bale Rs.	150	160	168	168	168	168	168	168	168	178	168
	Total value Mln. Rs.	35·0	2·4	62·2	6·7	55·4	1·7	152·8	1·7	200·2	14·5	75·4
Jute ..	Quantity In Bales of 400 lbs. Rs.	6·50	0·48	..	..	..	..	..	0·24	..	..	..
	Price per Bale Rs.	30	27	..	..	..	..	..	28·5	..	..	..
	Total value Mln. Rs.	195·3	12·9	..	..	..	..	..	6·8	..	..	..

[1] Wholesale price at Calcutta in 1921; average of all the varieties 3·7 annas per lb.

An Estimate of the Agricultural and Industrial Wealth of the Principal Provinces of British India—(*contd.*)

(Quantity and Total Value figures are in Millions)

Commodities		Bengal	Bihar and Orissa	Madras	Burma	U. P.	N. W. F. P.	C. P. and Berar	Assam	Bombay	Sind	Punjab
Linseed ..	Quantity Mln. Tons	0·022	0·136	..	..	0·05	..	0·074	..	0·016	..	0·003
	Price per Ton Rs.	223	210	..	..	223	..	270	..	223	..	223
	Total value Mln. Rs.	4·91	28·56	..	..	11·15	..	19·98	..	3·57	..	0·67
Rape and Mustard..	Quantity Mln. Tons	0·21	0·15	..	..	0·46	0·01	..	0·06	0·01	0·03	0·16
	Price per Ton Rs.	237	230	..	..	189	170	..	186	189	189	189
	Total value Mln. Rs.	48.77	34·50	..	..	86·94	1·70	..	11·16	1·90	5·70	30·24
Sesamum ...	Quantity Mln. Tons	0.031	0.026	0.089	..	0.11	..	9 962	0.001	0.885	0.004	0.155
	Price per Ton Rs.	248	248	248	..	278	..	216	248	248	248	248
	Total value Mln. Rs.	7.68	6.44	22.07	..	30.58	..	13.39	00.25	21.08	00.99	38.44
Groundnut .	Quantity Mln. Tons	..	..	0.58	0.10	..	..	..	..	0.22	..	..
	Price per Ton Rs.	..	..	151	151	..	..	..	..	15.1	..	..
	Total value Mln. Rs.	..	..	87.58	15.10	..	..	..	..	33.22	..	..
Indigo ...	Quantity Mln. Tons	0.001	0.008	0.035	..	0.006	..	..	..	0.001	0.001	0.006
	Price per Ton Rs.	..	..	..	..	..	..	..	..	..	..	..
	Total value Mln. Rs.	0.62	4.94	21.63	..	3.71	..	..	..	0.62	0.62	3.71
Barley ...	Quantity Mln. Tons	0.026	0.513	..	..	1.84	0.10	0.002	..	0.009	0.007	0.300
	Price [1] per Ton. Rs.	108	121	..	..	110	89	108	..	108	108	103
	Total value Mln. Rs.	2·81	62.07	..	..	202.40	8.90	0.22	..	1.00	0.70	30.90

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[1] *N. B.*—Calcutta wholesale prices average of June and July, 1921, Rs. 68 per ton.

An Estimate of the Agricultural and Industrial Wealth of the Principal Provinces of British India—*(Contd.)*

Commodities		Bengal	Bihar and Orissa	Madras	Burma	U. P.	N. W. F. P.	C. P. and Berar	Assam	Bombay	Sind	Punjab
		(Quantity and Value figures are in Millions.)										
Jowar ..	Quantity Mln. Tons	0·001	0·028	1·286	0·08	0·477	0·014	1·028	...	1·559	0·155	1·120
	Price per Ton Rs.	140	140	135	140	132	167	118	...	184	164	154
	Total value Mln. Rs.	0·14	3·90	173·51	11·20	62·96	2·34	121·30	...	286·86	25·42	18·48
Bajra ..	Quantity Mln. Tons	0·001	0·023	0·672	...	0.486	0·028	0·035	...	0·543	0·161	0·308
	Price per Ton Rs.	181	181	138	...	159	213	181	...	216	181	181
	Total value Mln Rs.	0·18	4·16	92·46	...	76·32	5·96	6·33	...	116·64	28·96	55·75
Maize ..	Quantity Mln. Tons	0·02	0·55	0·04	0·04	0·88	0·20	0·11	...	0·07	...	0·40
	Price per Ton Rs.	135	116·1	135	70·2	136·3	180·9	135	...	135	...	170·1
	Total value Mln. Rs.	2·70	63·80	5·40	2·80	119·9	36·2	14·8	...	9·4	...	68·04
Gram ..	Quantity Mln. Tons	0·04	0·50	0·02	0·01	1·60	0·03	0·20	...	0·08	0·01	0·84
	Price per Ton Rs.	162	159·3	151·2	113·4	129·6	99·9	151·2	...	213·3	239·5	135
	Total value Mln. Rs.	6·5	79·6	3·0	1·10	207·3	3·0	30·2	...	17·1	2·4	113·4
Total Agricultural Wealth ..		1690·00	1569·97	1492·15	387·10	2123·16	106·80	745·82	445·85	1433·96	990·43	10990·27
Industrial Wealth ..		206·35	...	26·96	92·26	33·22	...	62·69	3·30	331·43	3·30	759·51

But the revenues as shown above, collected in the several provinces, are not quite accurate figures as to the real amount of taxation imposed upon these provinces. Thus the figures of Bombay and Bengal include the proceeds of the Customs Duties, which are collected by the provinces exclusively on account of the Central Government; and the entire burden of which is not borne by these coastal provinces, inasmuch as the goods imported and exported paying these duties are finally consumed only partially in these coastal provinces. An allowance must, accordingly, be made for such items according to the real or approximate consumption of the taxed articles in these provinces proper. On the other hand, the provincial collections do not give any indication of the Railway and postal collections which are also Central Government heads of income; but which, being considered as profits of commercial services, are shown in the accounts only as a net item after the deduction of the working expenses, and in one lump of Central Government income. But, nevertheless, actually, these items are also derived from the use made of these services by the peoples of the several provinces; and in a proper survey and exhibition of the real pressure of the tax-burdens in India, it would be necessary to allow for these items as well. Statistics, however, of the Customs and Railway receipts are so compiled in this country, that it is well-nigh impossible to give any reliable or accurate exhibition of these sources of public revenues. The actual consumption of the goods liable to Custom Duties in each province is nowhere shown, neither in the Trade Returns nor in the Customs Statistics, nor in the Railway Administration Reports, nor in the Inland Trade Returns. Still we have endeavoured to arrive at some figures, more or less accurate, to show the real burden of taxation in each province.

Province 1	Collection on rail-ways a/c. 2	On a/c of Posts 3	True charge of Customs 4	Other revenues 5	Total Collection 6	Wealth of Provinces 7	Proportion of 6 to 7. 8
	N.B.—The figures are in lakhs of Rupees and relate to 1921-22						
Bengal ...	[1] 1705·7	[2] 173·05	[3] 1,000.00	[4]3,273·68	5152·43	189·63	27 per cent.
Bihar ...	910·2	38·17	450·00	590·57	1988·94	156·99	12½ per cent.
Assam ...	219·9	included in Bengal	210·00	257·99	687·89	44·91	16 per cent.
Burma ...	648·5	50·28		1417·54	2116·32	47·93	45 per cent.
United Provinces..	1410·7	95·46	850·00	1635·65	3991·81	215·63	18 per cent.
Central Provinces.	520·6	47·03	120·00	614·64	1302·27	80·85	16 per cent.
Punjab ..	1015·4	144·53	620·00	1301·19	3081·12	99·37	30 per cent.
Bombay ...	1214·4	173·42	450·00	2333·17	4170·99	146·53	28 per cent.
Madras ..	1131·1	158·66	280·00	2453·93	4023·69	151·91	26 per cent.

1. The Railway figures have been obtained by the following process :—From the Railway Administration Report of 1920-21 and 1921-22, the earnings have been taken under the two main heads of those from the Coaching Traffic and those from the goods Traffic. The former have been apportioned as between the several provinces in proportion to their respective population : This apportionment takes no account of passenger earnings from the Native States, which are included of course in the total; but the omission does not make any very material difference in the percentage.

The Earnings from the Goods Traffic are apportioned as between the several provinces in the ratios of the total imports of each Province, as obtained from the Inland Trade Table No. I, for 1920-21, on the assumption that the importers pay for the cost of carriage in general. The Posts are excluded. There is the same difficulty here as in the case of the Passenger earnings due to the earnings from the Native States, and also that the figures for Burma are not available in the Inland Trade Returns. A percentage has been assigned to Burma instead.

2. The Postal figures are obtained as follows :—
The Statistical Abstract gives by the provinces an estimated number of letters, post cards, money-orders etc. By assigning the appropriate value to each article or description of service rendered by the Post Office, we account for Rs. 880 lakhs of the postal revenues, the figures for the Telegraph department being not available. Obtaining the percentage of each province, we can obtain the revenue collected from each province in any year.

3. The Customs Charge of each province is calculated from the basis of the Inland Trade Returns (for 1920-21) from which is obtained the ratio for each province of the imported and taxed goods. Allowing proportionately for other goods, the import duty percentage is calculated and so the total customs charge. The figure is very, very rough.

4. Other Revenue figures in col. 4 are those for the Revised Estimates of 1923-24 which accordingly differ from the figures in the other column. Substantially, however, there will be no great or material variation.

7. DETAILED CONSIDERATION OF THE DISTRIBUTION OF THE TAX BURDENS

The classification of the Indian Tax system leaves much to be desired; and the statistics of the actual payments by the different classes of the community are practically non-existent. The following attempt is made, however, on assumption: which are mainly true,—viz., dividing the community between two main classes of those living just on or below the margin as shown by the average income obtained in the previous sections of this work, and the relatively better-off classes, who are numerically much weaker, we shall study how much of the actual tax-burden is borne by the better classes, and how much by the poorer sections of the community.

The main sources of public revenues in British India, according to the revised estimates of 1923-24 were:—

	Rs.
Customs	40,41,53,000
Land. Rev	36,07,61,000
Income Tax	19,21,11,000
Excise	19,22,41,700
Salt	8,70,27,700
Stamps	12,81,38,000
Forests	5,84,38,000
Irrigation	5,80,49,000
Registration	1,22,42,000
Railways	94,22,02,000
Posts	10,35,51,000
Opium	4,30,64,000
Tributes	87,26,000
Interest Receipts ..	3,24,25,000
Mint &c.	3,07,68,000
Departmental (Civil and Mil. of the Central Govt. only	8,23,00,000

of these, we may leave out Opium, Tributes from the Native States, Interest and Mint, and other Departmental receipts, Civil as well as military, of the Central as well as of the Provincial Governments, as really not forming part of the tax-burdens proper; or as being borne by people other than the citizens and subjects of British India. This leaves a total of some 253 crores, to be distributed between the classes of the community above described. Taking these seriatim, we may say the Land Revenue and Irrigation Receipts, which are collected with the Land Revenue and are essentially indistinguishable from the latter, a total of 42 crores in round figures, must be largely borne by the poorest section of the community, with the exception of that portion of the Land Revenue demand which is derived from the Zamindari Lands.

The Customs Revenue may be divided as follows:—

Of the total amount of Rs. 45 crores (Budgeted in 1923-24, Revised only Rs. 40 crores) Rs. 36.57 crores came from the Import Duties.

„ 5·40 „ „ „ Export Duties
„ 1·88 „ „ „ Cotton Excise
„ 1·70 „ „ „ Motor Excise etc.
„ 0·42 „ „ „ Miscellaneous

We may leave out the export duty proceeds as being not borne by Indians at all. Of the remainder, the Excise duty of 80 lakhs on Petroleum may be regarded as falling exclusively on the richer classes, while that on Kerosene being paid by the poorer class. In the Import Schedule, all the duties on:

Motor Cars and other luxury goods taxed at 30 per cent.		Rs.	3·02	crores
Liquors, Wines, Beer etc.	„ (Special)	„	2·52	„
Machinery, Metals and Railway Plant		„	3·83	„
Articles of Food and Drink and Raw Materials		„	2·33	„
	Total ..	Rs.	11·70	

may be taken to be borne by the relatively richer classes wholly. This accounts for a total of Rs. 12.50 crores **Plus** 5.40 crores of Export Duties, equal to Rs. 17.90 crores in all. Of the remainder of 28 crores, we may take it the poorer classes bear in the proportion of 3: 1 or 21 crores to 7 crores. This means that the richer class takes 19.50 crores, non-Indians 5.40 crores, and the poor class of Indians 21.00 crores. Reducing the same to the basis of the revised estimates, as given above, we may say, the richer class bears 17.30 crores, the poor class 18.60 crores, and the non-Indian about 5 crores.

In the case of the land revenue and Irrigation Dues, totalling, according to the Revised Estimates for 1923-24, Rs. 41.87 crores, we may take it, on the authority of the distribution of the Land and Revenue between the Zamindars, permanently or temporarily settled, and the ordinary Ryots, quoted before, that the Zamindars pay a total tax of Rs. 17.58 crores[1] and the ryots of Rs. 13.99 crores. This gives a total of Rs. 31.57 crores, as against the Revised Estimates total of Rs. 36.07 crores of Land Revenue in 1923-24. The Land, however, not accounted for in the 1921-22 Statistics quoted above is Ryotwari and temporarily settled, so that practically the whole of the difference may be credited to the account of the ordinary ryots, so that we may say Rs. 18.50 crores is paid by the smaller ryot, and Rs. 17.57 crores by the richer Zamindars. The Irrigation receipts may also be split up in the same proportion, making the ryots' share equal to Rs. 3 crores and the Zamindars' to Rs. 2.80 crores. The poorer section thus bears 21.50 crores of Land Revenue and Irrigation charges, against the richer section taking Rs. 20.37 crores.

The Income Tax receipts may be said to be wholly due to the richer classes, and per contra the Excise receipts to be as wholly due to the poorer section.

The Salt Revenue of 8.70 crores may be divided so that Rs. 7.50 crores is borne by the poorer section, and Rs. 1.20 crores by the richer community.

The Forests and Registration Receipts (5.84 plus 1.22 crores) may be taken as coming very largely from the poorer section, the claims of distributive justice being satisfied in actual fact by the richer section taking 2 crores at most, and the poorer taking the remaining 5 crores.

Stamps, 12.81 crores, may be divided as to 6 crores for the poorer and 6.81 crores for the richer classes, allowing for both the judicial as well as commercial stamps.

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[1] In 19221-22, account to the **Agricultural Statistics of India** No. 1856 of the Commercial Intelligence Department of the Government of India, 1924.

In the case of the Railways, the earnings from Passenger Traffic in 1922-23 amounted to Rs. 37.59 crores, and those from the Goods Traffic Rs. 57.87 crores. Of these, the passenger earnings from the first, second and Intermediate class combined made up 5.39 crores, while the third class alone made up for Rs. 32.20 crores. The Goods Traffic charge is really borne by the poorer section, but we may split it up equally to err on the safe side about 28 crores would fall on the poorer section and 27.75 on the richer.

The postal receipts may be halved between the two sections, being Rs. 5 crores for the richer section and Rs. 5.35 crores for the poorer.

Summing up, we get the following rough but instructive result:—

Under the Item.	Amount of tax-burdens borne by the rich.	Amount of tax-burdens borne by the poor.
	(Rs. in crores)	
Customs	17·30	18·60
Land revenue	20·37	21·50
Income Tax	19·21	....
Excise	....	19·22
Salt	1·20	7·50
Forests & Registration	2·00	5·00
Stamps	6·81	6·00
Railways	33·14	60·20
Posts	5·00	5·35
Total	105·03	143·37

N. B.—There is no middle class in India.

This means that the numerically much larger, but economically much poorer, section of the community bears about 40 per cent. higher burdens than the numerically smaller but economically much stronger community. The full significance of these proportions will, perhaps, be better realised by the study of the next chapter, which deals with the distribution of the wealth in India.

CHAPTER IV

The Distribution of the National Wealth in India

Unsatisfactory as the material has proved to be for the subject-matter of the preceding sections of this work, the data for that of the present chapter are the most unsatisfactory. In Britain, with its fairly evenly distributed wealth, and its complete statistics arising out of the administration of the Income Tax, the calculation about the distribution of the wealth of the community is relatively easier. In India, the income tax is paid by an insignificant fraction of the community, being less than a quarter of a million individuals out of a total population of nearly 225 millions in British India. These figures are thus utterly unreliable for the purpose of making a bird's-eye-view of the distribution of the national wealth in India by groups.[1] The Prices and Wages Statistics are no more illuminating, while the Census Statistics, such as they are, only serve to make the matter more confounded still, since it never seems to have been the intention or purpose of the Census authorities to make an inquiry into such matters at all. We shall, however, endeavour to lay out certain cardinal facts of the problem as far as we can ascertain them from the material at our disposal; and see if we can reach any conclusions at all worth the name in regard to the distribution of the national dividend in India.

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[1] According to the **Statistics of British India.** Vol. II., Financial Statistics, No. 1624 of the Commercial Intelligence Department of the Government of India, 1922, p. 264, the total income liable to taxation under the Income Tax Acts was estimated in 1918-19 at Rs. 203.93 crores, and in 1919-20 at 177.74 crores. Such detailed figures are not available for subsequent years, but according to the decennial **Statistical Abstract for British India**, 1911-12 to 1920-21, p. 180, there were in 1920—21 223,400 assessees, paying a total income-tax of 12·95 crores, which would mean a taxed income of over 200 crores.

DISTRIBUTION OF THE PEOPLES OF INDIA BY OCCUPATION

The **subjoined table** gives a summary idea of the distribution of the peoples of India according to their occupations.

Order No.	Occupation.	Population Supported in 1921.
	TOTAL POPULATION	**316,055,231**
	A.—Production of Raw Materials ..	231,194,403
	I.—Exploitation of animals and vegetation ..	230,652,350
1	Pasture and Agriculture ..	229,045,019
2	Fishing and hunting ..	1,607,331
	II.—Exploitation of minerals ..	542,053
3	Mines ..	398,968
4	Quarries of hard rocks ..	74,945
5	Salt, etc. ..	68,140
	B.—Preparation and Supply of Material Substances ..	55,612,694
	III.—Industry ..	33,167,018
6	Textiles ..	7,847,829
7	Hides, skins and hard materials from the animal kingdom ..	731,124
8	Wood ..	3,613,583
9	Metals ..	1,802,208
10	Ceramics ..	2,215,041
11	Chemical products properly so called, and analogous ..	1,194,263
12	Food industries ..	3,100,361
13	Industries of dress and the toilet ..	7,425,213
14	Furniture industries ..	27,065
15	Building industries ..	1,753,720
16	Construction of means of transport ..	52,793
17	Production and transmission of physical forces (heat, light, electricity, motive power, etc.). ..	24,881
18	Other miscellaneous and undefined industries ..	3,378,937
	IV.—Transport ..	4,331,054
19	Transport by air ..	629
20	Transport by water ..	745,399
21	Transport by road ..	2,145,940
22	Transport by rail ..	1,231,672
23	Post Office, Telegraph and Telephone services ..	207,405
	V.—Trade ..	18,114,622
24	Banks, establishments of credit, exchange and insurance ..	993,492
25	Brokerage, commission and export ..	242,628
26	Trade in textiles ..	1,286,277
27	Trade in skins, leather and furs ..	233,862
28	Trade in wood ..	227,667
29	Trade in metals ..	64,688
30	Trade in pottery, bricks and tiles ..	62,497
31	Trade in chemical products ..	120,028

Order No.	Occupation.	Population Supported in 1921.
32	Hotels, cafes, restaurants, etc. ..	706,332
33	Other trade in food-stuffs ..	9,282,651
34	Trade in clothing and toilet articles ..	284,868
35	Trade in furniture ..	173,188
36	Trade in building materials ..	76,810
37	Trade in means of transport ..	331,900
38	Trade in fuel ..	519,296
39	Trade in articles of luxury and those pertaining to letters and the arts and sciences ..	459,868
40	Trade of other sorts ..	3,048,570
	C.—Public Administration and Liberal Arts ..	9,846,050
	VI.—Public force ..	2,181,597
41	Army ..	757,383
42	Navy ..	571
43	Air force ..	1,033
44	Police ..	1,422,610
45	**VII.—(Order 45) Public Administration** ..	2,643,882
	VIII.—Professions and liberal arts ..	5,020,571
46	Religion ..	2,457,614
47	Law ..	336,510
48	Medicine ..	659,583
49	Instruction ..	805,228
50	Letters and arts and sciences ..	761,636
	D.—Miscellaneous ..	19,402,084
51	**IX.—(Order 51) Persons living principally on their income** ..	479,835
52	**X.—(Order 52) Domestic service** ..	4,570,151
53	**XI.—Insufficiently described occupations** (Order 53.—General terms which do not indicate a definite occupation) ..	11,098,566
	XII.—Unproductive ..	3,253,532
54	Inmates of jails, asylums and almshouses ..	145,467
55	Beggars, vagrants and prostitutes ..	3,020,680
56	Other unclassified non-productive industries ..	87,385

Briefly stated :—

Agriculture supports	70·9 %	with	45 %	workers, and	55 %	dependents.
Industry "	10·7 "	"	48 "	" "	52 "	"
Commerce "	7·1 "	"	44 "	" "	56 "	"
Professions "	1·6 "	"	41 "	" "	59 "	"
Other occupn.	9·7 "	"	54 "	" "	46 "	"

We consider, however, that all those engaged in transport and trade, in the administration of public affairs, and the exercise of the liberal professions, are really parasites, so that practically 90 per cent. ultimately depend on agriculture in this country.

The following Statistics of the Wealth liable to the Income Tax and of the number of assesses afford the only basis for any computation of the distribution of the national dividend in India.

Grade of Income	Bombay 1922-23		Bengal 1922-23		Punjab 1922-23	
	Total Net Income Taxed	No. of Assesses	Total Net Income Taxed	No. of Assesses	Total Net Income Taxed	No. of Assesses
	Rs.		Rs.		Rs.	
2,000-2,499	3,57,91,530	18,339	2,56,44,301	10,721	1,55,52,932	7,331
2,500-2,999	2,00,68,105	7,261	1,11,42,853	4,400	98,92,150	3,521
3,000-3,499	2,12,16,663	6,353	1,31,24,565	4,236	1,05,73,888	2,823
3,500-4,999	4,40,64,486	10,919	2,65,57,814	6,518	2,06,01,324	4,346
5,000-7,499	5,13,34,924	9,112	3,47,79,811	6,024	2,22,88,679	3,408
7,500-9,999	4,12,35,616	4,962	2,40,45,581	2,860	1,32,42,330	1,562
10,000-12,499	3,11,91,207	3,146	1,72,42,830	1,621	1,06,12,778	977
12,500-14,999	1,76,75,439	1,376	1,21,85,431	816	47,80,018	386
15,000-19,999	3,34,33,714	1,954	1,73,78,038	1,026	76,32,407	414
20,000-24,999	2,13,28,765	1,100	1,11,33,281	550	63,92,419	273
25,000-29,999	1,88,81,935	799	70,46,156	259	38,44,645	188
30,000-39,999	2,23,17,954	762	88,97,488	309	35,75,696	125
40,000-49,999	1,08,77,909	323	54,92,628	151	28,07,208	95
50,000 & Over	8,10,99,021	1,014	2,93,21,107	279	1,47,52,084	141
Unclassified						
Total Rs. ..	45,05,17,268	67,420	24,39,91,884	39,770	14,65,48,558	25,563

1. These Statistics are compiled from the Income Tax Administration Reports of the various provinces. Assam Figures are for 1920-21, and of those of Madras and of Bihar & Orissa were not accessible to me. The consolidated figures of the whole British Empire in India were formerly published in the Statistics, of the Government of India, Volume II., Financial Statistics, from which accordingly the figures relative to Madras and Bihar may be taken. But these Statistics have been discontinued since 1922, and so the basis has become more slender than ever.

The total number of assesses in all the Provinces of India in 1922-23 was given at 238,242, in reply by the Hon. Sir Basil Blackett, the Finance Minister of India, to a question in the Legislative Assembly by Mr. K. Rama Aiyenger on the 8th of March, 1924. cp. pp. 731-2 of **India's Parliament** Vol. VII.).

[Table Continued.]

United Prov. 1921-22		Central Prov. 1922-23		Burma 1922-23		Assam 1920-21	
Total Net Income Taxed	No. of Assesses	Total Net Income Taxed	No. of Assesses	Total Net Income Taxed	No. of Assesses	Total Net Income Taxed	No. of Assesses
Rs.		Rs.		Rs.		Rs.	
1,49,32,911	7166	44,10,029	2421	88,46,301	4445	19,23,747	960
85,72,595	3410	32,18,088	1142	49,12,873	2061	12,92,224	484
81,78,644	2402	32,64,232	1061	51,31,859	1552	15,02,181	472
1,74,03,595	4220	67,13,680	1616	92,57,174	2309	29,57,926	711
1,90,58,068	3309	88,21,562	1555	1,19,87,755	2125	41,88,062	734
1,17,94,804	1470	55,26,089	630	86,49,365	1056	23,97,801	290
81,84,193	908	47,18,939	443	76,61,798	747	11,65,856	125
45,43,982	367	25,57,067	198	54,34,620	437	7,17,375	79
74,73,369	474	34,68,186	209	1,00,87,052	605	13,38,123	85
43,12,634	239	33,90,415	174	63,97,447	318	5,72,805	34
34,73,525	159	22,66,390	92	46,80,771	197	4,40,379	32
35,32,995	128	23,25,794	68	58,25,754	187	3,98,779	13
25,34,853	68	15,43,730	34	31,36,154	81	1,55,536	5
59,69,457	103	91,56,244	62	74,07,723	150	43,41,339	15
8,24,183	675	..	..	..	..	..	..
12,07,49,808	25098	6,13,84,545	9705	9,96,17,246	16,270	2,33,92,133	4,039

Province	Total Taxed Income	No. of Assesses	Income from Salaries	Income of Joint Hindu Families	Income from all other sources
	Rs.		crores	crores	crores
Bombay	45,05,16,268	67420	10·81	2·44	32·53
Bengal	24,39,91,884	39770	11·00	0·59	13·25
United Provinces ...	12,07,49,808	25098	3·05	1·95	6·94
Punjab	14,65,48,558	25563	1·91	2·15	11·76
Central Provinces ...	6,13,84,545	9705	1·27	0·59	4·45
Burma	9,96,17,246	16270	5·12	0·25	4·64
Assam	2,33,92,133	4039	...	...	...
N. W. F. Province ...	2,23,03,488	3503	0·33	0·55	1·40
Madras	...	...	...	...	...
Bihar and Orissa ...	...	...	...	...	...
Total	...	...	...	...	...

The foregoing tables account in all for a total net taxed income of Rs. 117 crores, with a total number of assesses being 191,368. The tables do not contain the figures for Madras and Bihar and Orissa, two of the major provinces, which are not however the richest provinces of India from the point of view of the Income liable to the direct tax on Income. According to the **Statistics of British India, Vol. II. Financial Statistics No. 1624** of 1922 commercial Intelligence Department of the Government of India, p. 271, Table 118, Madras in 1919-20 had 34,166 assessees, who paid a total tax between them of Rs. 1,03,42,726, against the Bombay figures of 28,494 and Rs. 2,17,86,599 respectively. According to the Budget for 1924-25, the Accounts of 1922-23 show the Income Tax receipts from Bombay aggregating 5.81 crores, while those from Madras are 1.32 crores. If the total taxable wealth in Bombay is 45 crores, the wealth of Madras at the same rate of calculation would not be much more than 10 crores. Bihar and Orissa, according to the **Statistics of British India** already quoted, had, in 1919-20, the total number of 8,852 assessees, paying a total tax of 19,48,872 rupees. In 1922-23, the same province paid a tax of 45,27,977, which would, by parity of reasoning, give a total wealth of about Rs. 4 crores only liable to the Income Tax. [1] Adding up these figures, we get a total taxable income of Rs. 131 crores, or, allowing for the areas not included in the above table, of 135 crores in round figures. This, however, does not quite tally with the estimate of the total income liable to the Income Tax, as given in the Statistics of British India, already quoted. Says that authority :— “The marginal table shows the growth of the total collections, and of the total estimated income on which the tax was assessed. Applying the rates of the tax to the total collections under the various classes as given in Table No. 118, the total income roughly works out to Rs. 178 crore in 1919-20, as against Rs. 204 crores in 1918-19.”

Year.	Total collection of the tax.	Total estimated Income
	(lakhs of Rs.	
1886-7	1,27	57,36
1902-3	2,10	87,75
1907-8	2,24	90,53
1912-13	2,53	102,19
1917-18	7,11	167,87
1918-19	9,34	203,93
1919-20	8,76	177,74

The Income tax receipts of 1922-23 were Rs. 15.31 crores. Allowing for the variation in the rates since 1920, and also for the more rigorous administration of the

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[1] These figures may seem astoundingly low in view of the area and extent of these provinces, as well as of their population. But the explanation is probably to be found in the fact that these are largely agricultural provinces in which the income from agriculture as well as the income of agriculturists from other sources, is free from the operation of the Income Tax. In the theory of the law only agricultural incomes, i. e. incomes derived from agriculture directly, are exempted from taxation under the Income Tax acts ; but in practice it seems, all incomes of the agriculturists are exempted from taxation, especially in regions blessed with the Permanent Settlement of the Land Revenue. The above figures are, therefore, no true index of the real wealth of these provinces.

Income Tax laws, which has set in since 1920, the total taxed income at present cannot be much under 175-200 crores. In view of the Indian conditions, we should be inclined to take the latter figure as being more near the mark; but, in order to err on the safe side, we shall take Rs. 175 crores as the total taxed income in 1922-23.

This is, however, not all. A considerable portion of the income escapes taxation or is exempted specifically from the operation of the tax. All incomes below Rs. 2000 per annum are exempted; all agricultural incomes are also exempted; and incomes of people in the Native States, not liable to any Income Tax law, necessarily escape from taxation and hence from our calculation. In addition, there must still be considerable amounts escaping altogether any taxation, though under the laws they may be liable to be taxed. Leaving aside the agriculturists for special treatment later on, we may say the incomes under the heads above noted which escape or are exempted from taxation cannot be under Rs. 200 crores, with an average of not less than Rs. 500 per annum per head.[1] The total number of income-tax payers in the figures already given was 191,368. Allowing for the assessees of Madras and Bihar and Orissa, as well as of the probable discrepancy in the basic figures above given we may take it the recorded number of income-tax payers must be about 250,000. The unrecorded, or exempted or escaping income-tax liable-people must be numbering about three times that number at least, or say 750,000 in all.[2] A million people in all thus enjoy a total income of 375 crores roughly speaking, or an average income of 3750 rupees. Given four dependents to each of these million people, and we have a per capita income in this class of Rs. 937½ per annum.

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[1] In the foregoing argument, the ground has been slightly shifted. The Income Tax Laws, as they obtain to-day, exempt all incomes below Rs. 2,000 per annum from the direct tax on Incomes, regarding that figure as the minimum necessary for subsistence. In view of Indian conditions of life, however, the minimum necessary for a reasonable standard of human comfort is nearer 500 per annum than 2,000, though, of course, it does not mean that the taxing authority would be justified in making Rs. 500 p. a. as the basis for exemption. For purposes of considering the distribution of wealth in India, we have accordingly taken an income of Rs. 500 per annum and over as constituting the richest class.

[2] These figures seem very little removed from pure guess work; but the following considerations might serve to show that the number is not altogether fanciful. There are 750,000 villages in India; and if we take one shopkeeper in every three villages as able to make an income of 500 rupees per annum, we may have that income alone aggregating Rs. 12·50 crores, from a total potential number of assesses of 250,000. If to these we add the clerks, teachers, soldiers and other types of public and private servants having an income of between 500 and 2000 per annum, also the smaller professional men, we should say the number was by no means exaggerated at 750,000. In the latest Census Report 479,000 are returned as living principally on their own income, which might also support this argument.

The following Statistics from the All-India Census Report for 1921, would be furthe interesting in this connection.

[Footnote Continued on the next page.]

I Persons Employed in the Railway Department on the 18th March 1921.
Directly.

	Officers.		Subordinates Drawing more than Rs. 75 p. m.		Subordinates Drawing between Rs. 20 and 75.	
	Europeans & Anglo-Indians.	Indians.	Europeans & Anglo-Indians.	Indians.	Europeans & Anglo-Indians.	Indians.
Railways ...	1,315	262	12,056	19,985	3,678	233,416
Irrigation ...	229	535	12	1,200	47	10,628
Posts & Telegraphs	531	9,254	2,078	32,206		

Assuming that those described as officers draw a salary exceeding the Income Tax exemption limit of Rs. 2,000 per annum, their income has already been included in the total given in the text. For the second group of men we may assume an income of Rs. 1,500 per annum on an average; and for the third group, we make take an income of Rs. 500 per annum on an average. On these assumptions, the total annual income of these classes would be:—

		Rs. in crors.		Rs. in crores
Railways;—	Upper Subordinates	4·80	Lower Subordinates	11·85
Irrigation:—	„ „	0·18	„ „	0·53
Posts:—	„ „	0·65	„ „	1·42
	Total..	5·63	Total..	12·80

This is, indeed largely guess work; but the assumptions are in the main correct and according to the facts as we know them. If we add to these the number in the public Services with an annual income of between Rs. 500 and 2,000 per annum, the total wealth of the salaried persons alone which escapes or is exempted from taxation would be close upon 75 crores at least. To these must be added small shop-keepers and traders of all kinds, as well as the smaller handicrafts men, whose aggregate income escaping taxation, but being above Rs. 500 per annum on an average, cannot be much under 100--125 crores.

The following figures, though a little out of date, may be added with advantage to complete the statistics, as far as they are available in India, relatively to the Income Tax.

In 1919—20, the tax collected from:	Amounted to Rs.	In 1919—20, the tax collected from:	Amounted to Rs.
Salaries: Government ...	97,86,869	Income Derived from:	
„ Local Authorities	5,20,361	„ House Property ..	20,09,441
„ Companies &c. ...	46,28,520	„ Business ..	5,86,40,420
„ Private Employers	7,81,746	„ Profession ..	14,96,485
Total...	1,57,17,496	Total...	6,21,46,346
Interest on Securities			
„ Government ...	25,67,220		
„ Others ...	11,48,077	Other Sources ..	94,06,035
Total...	37,15,297	GRAND TOTAL...	9,09,85,174

Let us next take the case of the agriculturists, who are, by law, exempted from the direct taxation on income. It is presumed that the Land Revenue these people pay is the counter part in direct taxation of the Income taxes that the industrial and commercial classes have to pay. It may be so in the case of the temporarily settled ryotwari provinces, where in fact the individual incomes are so exceedingly small that no humane or civilised system of taxation could possibly tax them. But in the case of the Zamindari land-holders, and especially those whose land revenue has been settled once for all several generations since, the situation is wholly different. The income in this case is almost wholly unearned; it is utterly independent of the personal interest or exertions of the owner; and, finally, it is steadily growing independently of any activity of the owner. Thanks to the permanent settlement, the owners are themselves exempted from any corresponding increase in the demand from them for the purposes of the State; and though there is in most provinces enjoying such a settlement some sort of Land-lord and Tenant Legislation, framed with a view to safeguard the rights of the tenants under these land-lords, the latter have a thousand and one means of defrauding the tenants of their rights or privileges. According to the **Agricultural Statistics of India** Vol. I., Commercial Intelligence Department, India, No. 1856 of 1924,

339.886 million acres were held on Ryotwari Tenure;
123.115 million acres were held on Zamindari (Permanent) Tenure
194.857 million acres were held on Zamindari (Temporary) Tenure

Of these Class I paid a total Land Revenue of Rs. 13.99 crores;
Class II paid a total Land Revenue of Rs. 4.78 crores;
Class III paid a total Land Revenue of Rs. 12.80 crores;

As already explained (see ante. p. 291) these figures do not make up the total land revenue demand in India. Raising the amount proportionately, we find the land revenue demand from Zamindars of all sorts aggregates in round terms Rs. 18 crores; and if we may assume that the demand represents ten per cent. of the income of the Zamindars, the total income of this class would approximate Rs. 180 crores. [1]

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1. The following extract from the Census Report for all India would be interesting in this connection :—

"An accurate estimate of the average rent paid by ordinary cultivators in Bengal will not be obtainable until the settlement Department has completed a Record-of-Rights for the whole Province, but it seems likely, from the statistics already available and a general impression of the conditions in parts of the province for which a Settlement Record has not yet been prepared, that the average rent paid by the Raiyats for all classes of land is rather over Rs. 3 per acre. This means that the total realised as rent by the land-lord class including middle men in Bengal is Rs. 13,50,00,000 per annum. Allowing six persons to the average rent-receiver's family.....This gives the average rent-receiver's family a gross income of only Rs. 620 a year. When it is remembered that not less than ten per cent. has to come off for Land Revenue and the cost of collecting rents,and that a "small number of great land-lords take a large proportion of the assets of the land to themselves, it will be realised that most of the land-lord and middlemen class in Bengal are by no means well-to-do". (All-India Census Report p. 244.)

2. In Subsidary Table No. V. to the Chapter on Occupations in the All-India Census Report, which, according to the title, deals, with the **occupation of Females according to Orders and Selected Groups**, the total population subsisting on Agriculture and Pasture is given as 104·943 Millions, of which 100·335 is supported by Ordinary Cultivation : and of these, again, 2, 690, 177 **Males**, and 1,036.528 are **Females**. This would give the total number of rent receivers at **3,726,705** This is, however, most confusing. As the total population dealt with is only 104 million, the table is utterly misleading.

The following figures may be further added from the Census Reports of the several provinces available to date, to support the same argument:

Province.	Total number supported by Agric. & Pasture.	No. of Rent Receivers.	No. Supported by Rent.	Number supported by ord. cultivation.
Bihar & Orissa	27,570,339	341,203	113,435	21,836,591
Punjab & Delhi	15,213,502	1,008,172	337,779	12,619,613
Burma	9,632,212	157,135	2,158	9,239,997
Madras	30,094,335	2,622,577	1,126,037	27,471,758

The following further statistics from the All-India Census Report of 1921, p. 242 would be instructive in the same direction.

Province.	Number of cultivators per 100 rent receivers.	Number of acres cultivated per 100 ordinary cultivators.	Number of farm servants and field labourers per 100 cultivators.	Total number per 10000 of Population supported by ordinary cultivation.
Assam	12,014	296	3	7,614
Bengal	2,407	312	19	7,649
Bihar & Orissa ..	8,752	309	28	7,966
Bombay	1,625	1,215	41	6,153
Burma	4,812	565	29	6,882
C. P. & Berar ..	3,808	848	82	7,395
Madras	779	491	53	7,032
N. W. F. Province ..	99	1,122	..	6,483
Punjab	1,098	918	12	5,886
United Provinces ..	4,655	251	16	7,490

Applying the details in the above table, we find the total number of Rent Receivers in the several provinces and the total number of the ordinary cultivators to be:—

Province.	Total number of Ordinary cultivators	Total number of Rent Receivers.
Assam	6,082,000	50,650
Bengal	36,400,000	1,510,00
Bihar & Orissa	30,240,000	345,400
Bombay	16,460,000	1,013,000
Burma	9,090,000	188,500
C. P. & Berar	11,810,000	317,400
Madras	30,090,000	3,863,000
N. W. F. Province	3,291,000	4,185,000
Punjab	14,780,000	134,500
United Provinces	34,870,000	749,100
Total ..	193,113,000	12,358,550

To these, let us add the further facts that, according to the calculations in the previous part of this work, the total net agricultural wealth of India was estimated at Rs. 2,097.8 crores of rupees in 1921-22, of which the share of the British Indian provinces, on the basis of the area respectively covered by the British and the Native States Jurisdiction, ought to be 1,300 crores in round figures; or, allowing for the relatively richer land and better cultivation in the British provinces, 1500 crores; that of the total area cultivated in British India, nearly half is under the Zamindari tenure, whether permanently settled or temporarily, and that the value of agricultural produce from this land would be about 600-750 crores in round figures; that allowing rent to represent no more than 25 per cent. of the gross produce, the income from agricultural rents would aggregate Rs. 150 to 187½ crores per annum,—an estimate closely similar to the one we have arrived at otherwise. The whole of this income, which ought to be liable to the direct tax on Incomes, escapes such taxation. [1]

The aggregate of the wealth, then, which is either liable to the Income Tax, or is exempted from it or escapes the taxation, is thus:—

The total wealth falling under the operation of the Income Tax	175
The total wealth escaping the Income Tax legislation, though not specially exempted en masse as agricultural wealth	200
The total wealth exempted from Income Tax as agricultural wealth	175
The total wealth of the three classes with an average income per head of actual worker of not less than 500 rupees per annum	**550**

The total number supported on this wealth being:—

1,250,000	in the case of those directly paying the Income Tax;
3,750,000	in the case of those who escape or are exempted from the Income Tax, though their incomes are derived mainly from non-agricultural sources
12,358,550	in the case of those who, being agriculturists are exempted from taxation.

In round figures this means 1.75 crores of individuals having an aggregate income between them of Rs. 550 crores per annum, or roughly Rs. 325 per capita.

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[1] The following statistics have been compiled from the several Provincial Reports on the Land Revenue Administration. They do not, by any means, exhibit an uniform position, since the statistics in the reports are not presented on any single pattern. But we have endeavoured to correlate and harmonise the figures, and in consequence the following statistics are as closely akin as is possible under the circumstances. The dates of the Land Revenue Administration Reports, it may further be added are:—

Assam	for	1922-23	Bombay	1921-22
Bengal	„	1921-22	New Prov.	„
Bihar	„	1922-23	N. W. F.	„
Punjab	„	1921-22	Burma	„
U. P.	„	1921-22	Madras	Nil.

In some cases the year coincides with the official year; in others it is the agricultural year ending on the 30th June or September. In the Madras Reports the required statistics are not available, as also in the latest report (1922-23) for Bombay.

ZAMINDARI AREA

Province		Permanently Settled			Temporarily Settled	
	No. of Estates	Total area (acres)	average size (acres)	No. of Estate	Total area (acres)	average size (acres)
Assam	19	1,518,982	7984·1	12,027	365,316	30·2
Bengal	92,508	37,278,571	403·0	3,886	4,333,585	1115·1
Bihar and Orissa ...	103,211	39,942,092	387·0	12,269	5,652,265	460·7
Bombay	...	...	...	...	2,505,502	...
Burma	The Pro	vince is	wholly Ry	otwari	...	...
Central Provinces ...	Malgu	zars and	Other pr	oprietors	...	...
	...	4,169,192	4,169,192	84,567	806,624	9·5
Madras	...	...	...	...	9,800,959	...
N. W. F. Province ...	Tempora	rily Settl	ed Owners	456,353	1,266,328	2·75
Punjab	Tempora	ry Zamin	dari Owne	rs3973,000	12,830,000	3·2
United Provinces ...	Number unknown	5,827,617	...	Unknown Number	49,792,995	...

RYOTWARI AREA

Province.	No. of holdings.	Total Area.	Average Size.	Remarks.
Assam	..	..	..	[1] All figures from the Land Rev. Rep.
Bengal	..	..	..	[1] The Area figures are taken from the Agric. Statistics of the Government of India, 1921.
Bihar and Orissa ..	..	..	..	[1] The area figures are taken from the Agric. Statistics of the Govt. of India 1921-2 p. 10.
Bombay	2037,000	26,838,000	13·4	[1] The Province is largely Ryotwari.
Burma	231,195	26,760,393	11·5	[1] The figures ara from the L. R. Report 1921-2.
Central Prov.	1981,485	1,913,773		[1] The Province is Temporarily settled.
Madras	..	16,885,268	8·7	[1] The area figures are from the agric. Statistics.
N. W. F. Prov ..	647,440	28,673,493	2·5	
Punjab	6500,000	1,624,914	2·6	[1] Zamindari-tenant Temp. Settled.
United Prov.	..	15,989,000	..	[1] The whole Prov. Zamindari.

1. These figures are most unsatisfactory, though we have tried as much as we could to supplement the Land Revenue Administration reports from the agricultural statistics of the Government of India. The latter, however, do not give the number of holdings, and so are useless for the ascertainment of the number of estates. We may note, however that in the three provinces of Bengal, Bihar and Orissa, and Assam only the Zamindari estates number 2,23,920 embracing a total area of 89,080,811 acres, or an average size of an estate of 400 acres in round figures. Another 84 million acres must be added to the tenure from the remaining prvinces, where, however, the number of estates comprised in that acreage are not known. In any case our estimate above of the rent receivers' wealth and number errs, if at all, on the safe side of an underestimate.

We have now accounted for 550 crores of the wealth of India, our figures being confined to British Indian territory only. The remaining wealth,—Agricultural mainly, since the industrial wealth must be taken to have been included already in the statistics given above, and the aggregate of which was estimated for the whole of India in Book I. at Rs. 235 crores according to the prices of 1921-22,—aggregates Rs. 1500 crores **MINUS** the wealth of the land-lords or rent receivers already included in the previous figures, i.e. Rs. 175 crores; or 1325 crores in round figures for British Indian territory. This amount distributed amongst the 19.31 crores of ordinary cultivators, as per the Census of **1921 will give a per capita income of Rs. 68.6 per annum.**

It would of course, be absurd to assume that this whole amount is distributed equally and equitably among the total population. We have no basis whatsoever, except such as may be provided by analogy, for computing how much of this total is taken by a relatively smaller number at a comparatively larger amount per head. But assuming that the number of those who have an average per capita, annual, income of between Rs. 100 and 500 is double the number of those in the first category with an income per head of Rs. 500 or more, we would have 35 million people in India with an average annual income per head of Rs. 200. [1] Their share, then, of the total wealth produced in the country would thus aggregate Rs. 700 crores leaving to the poorest class, wholly and exclusively dependent on agriculture, an aggregate in British Indian territory, of Rs. 825 crores (1325—500 crores) to be distributed among 158 million people in round numbers. On this calculation, the average annual income per head in the poorest section of the community in British India would be Rs. 52.21 at the price level of 1921-22.

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[1] The analogy for this assumption is furnished by the following statistics of the last Census Report. Industry supports in all **33,167,013** people; but these do not probably include all those small village handicraftsmen who, supplementing their earnings from agriculture by their handicrafts, must be presumed to be in a better situation than their neighbours.

Again, the Railway Department alone employs subordinates drawing a monthly salary of Rs.20 or less to the aggregate of 411, 917, against the upper subordinate class number in 237, 094; In the Irrigation Department out of a total number of 85,448 employed, 1,9761 alone could be described as officers or upper subordinates with an income on an average of over Rs. 500 per annum; in the Postal Service the total employed number 122,987, of whom 44,061 can at most be taken to have an income of over Rs.500 per annum. The proportion of 2 to 1 of the smaller to the higher income people is thus not unwarranted. We have take a smaller average income in the second group for the same reason. Yet another basis is provided by para 238 *et seq.* of the all India Census Report for 1921. Speaking of the population employed in industry, the authority observes. "Of the total number of 2,681,000 persons, 123,000 belong to the directing, supervising and clerical staff; 724,000 are skilled workmen and 1,829,000 are unskilled labourers.

Of the wages paid in 1922, the following selected statistics will be interesting. (Compiled from the PRICES AND WAGES IN INDIA, No. 1719 of 1923, Commercial Intellegince Department, Government of India.)

Monthly wage rates in:

1. Bengal Paper Mill: Vicemen; Rs. 45-0-0; Blacksmiths; Rs. 2-0-0; Machinist 40.
2. Brewery in Punjab; Coopers 45 to 30; Smiths Rs. 45; masons; Rs. 30-0-0.
3. Indian Seamen; Carpenters 75 to 120; Serangs 56 to 75; Lascars 20-30.
4. Colliery: Daily wage: Miners 1; Blacksmiths 1.15.
5. Engineering Workshop, Meerut; Daily wage: skilled labour 0·62; others 0·44.
6. Cotton Mill, Bombay; weaver Rs. 25 to 60; Jobber Rs. 45 to 75; Folder 16-20.
7. Jute Mill, Bengal; (Weekly) weaver; 9.2; Beamer, 7.6; Winder, 6.3; Shifter, 2.2; Spinner, 5.0; Rover 5.75;
8. Rice Mill, Rangoon; (Monthly) Blacksmith, 60;Fitter, 65; Carpenter, 75; Engine Driver 75.

Calculating at the rate of Rs. 500 per annum for every skilled workman and Rs. 300 per annum for every unskilled labourer, the wages bill, according to the Census figures of skilled and unskilled labour quoted above would aggregate Rs. 36.20 PLUS 54.87 crores Rs. 91 crores.

The handlooms in the country amount to a total of 1,938,072 They consume roughly 750,000 bales of Indian cotton, and foreign yearn of an unknown but considerable quantity. The total wealth produced by the handloom agency cannot be less than Rs. 25 crores per annum in British India. Smiths, carpenters, potters and leather-workers, to mention only the principal village crafts, may be taken together to account for a total income of another Rs. 50 crores, apart from their income from agricultural sources. Our assumptions, therefore, on p. 121 are abundantly justified.

Referring back, for a moment, to our previous conclusions regarding the incidence of the tax-burdens on the several classes of the people in India, we may note here that taking the first class to be those with an income of Rs. 500 per annum or more, and comprising among them an aggregate wealth of Rs. 550 crores per annum, that class would be paying a net taxation of Rs. 105 crores per annum, Imperial and Provincial burdens included. This is equal to an incidence of nearly 19 per cent. on the gross income per head. In the poorer class, with a total or aggregate income of 1325 crores bears an aggregate burden of 143 crores per annum, or equivalent to 10.8 per cent. The deduction by way of taxation of 10.8 per cent. from a total income (Gross) of 68.6 per head must mean a much greater proportionate burden, in view of the much smaller ability, than the aggregate charge of 20 per cent. in the case of incomes nearly five to seven times as large as the lower incomes. For the remainder, after deducting the tax-payments, in the case of the superior incomes though not over large, may still suffice to maintain the receivers of those incomes in decent human comfort; while in the case of the smaller incomes, the deductions by way of taxation leave a residue which is not sufficient to keep even the body and soul together. The consequence is visible in the increasing debility due to underfeeding of the large mass of our people. With a tax incidence of this proportion, and with a distribution of the national wealth on the pattern chalked out above, the conclusion is impossible to resist that the steady, progressive undermining of the constitution and vitality of the people of India is the only, inevitable consequence of the existing state of things.

We must add further that the income per capita mentioned above in the several classes is the gross average income; i.e., without deducting the several deductions, which according to the calculations in the very first Chapter of this Book, amount to Rs. 7 per head per annum; so that the deduction due to tax-incidence further reduces the resources left to the individual citizen for his own maintenance in health and efficiency, let alone comfort or decency.

So far we have considered the Distribution of the total National Dividend in India on a downward trend; i.e., from the richer down to the poorer sections of the community. Let us now consider the upward division, for which far better statistics are available than in the case of the lower end. The Super-tax returns, for example, from all the provinces give the following results :-

Grade of Income.		Collections from individuals. No. of assessees.	Collections from Companies & firms No. of assessees.	Collections from Joint Hindu families.	Total number of assessees.
I.	500,00 to 100,000	632	420	76	1,128
II.	100,000 to 150,000	166	150	65	381
III.	150,001 to 200,000	77	73	26	176
IV.	200,001 to 250,000	51	47	9	107
V.	250,001 to 300,000	32	44	10	86
VI.	300,001 to 350,000	25	36	6	67
VII.	350,001 to 400,000	17	31	4	52
VIII.	400,001 to 450,000	10	16	1	27
IX.	450,001 to 500,000	8	20	2	30
X.	500,001 & over.	60	274	15	348
	Total ..	1,078	1,111	213	2,402

These statistics do not include the returns from Madras, Bihar and Orissa, the United Provinces and Assam. The aggregate of Super-tax payers in these provinces may be taken at 200. On the other hand, the super-tax payers described as Companies and Firms cannot be taken as individuals, the wealth coming to them being distributed eventually among and enjoyed by the individual proprietors, who may or may not be included among the individuals already chargeable to the Super Tax as individuals. Generally speaking, the tax collected from the firms, as distinguished from the Companies, may be regarded as coming from individual partners, who are themselves not separately taxed, but who should be added to the number of the super-tax payers. Assuming that the number of partners is greater than the number of firms, and further that all partners are not of equal financial ability, but that only one partner in each firm paying Super-Tax is an extra individual chargeable to the Super-Tax, there are 383 such firms in the 1,111 Companies and Firms enumerated above, and so there would be, allowing for the provinces not included in the above table, 500 individuals to be added to the number of assessees liable to the Super-Tax. The aggregate would thus be 1,078, Plus 213, Plus 500, Plus 200 equal to 1991, or in round figures 2,000.

These individuals may be taken to be directly chargeable to the super-Tax, and as such having an individual income of Rs. 50,000 or more per annum. We must allow also for that other number which escapes or is exempted from such direct taxation. Taking the Land-Lords in British India alone, and allowing for those liable to but defeating the Super-Tax legislation in any way open to them legitimately or otherwise, the number of individuals with an income per capita above the Super-Tax minimum in these categories cannot be less than double the number directly paying the tax; i.e. 2,000 Plus 4,000 or 6,000 in all. Their income per head in this class may be taken on an average at Rs. 1,00,000 per annum.

The distribution of the National dividend, commencing from the top with the highest average incomes per head, is, thus, something like follows:—

6,000 individuals, with an average income per head of Rs. 100,000 per annum [1] absorb 60,00,00,000 among them, and support 30,000 persons.

230,000 individuals [2] paying Income Taxes with an average income of Rs. 1,150,000 persons.

270,000 individuals escaping or exempted from the Income Tax, but having an income liable to that tax, with an average income of Rs. 5,000 per head per annum, absorb among them 135,00,00,000 and support 1,350,000.

2,500,000 individuals with an average annual income of Rs. 1,000 absorb among them Rs. 250,00,00,000, and support 1,25,00,000 persons.

35,000,000 individuals with an average income of Rs. 200 per annum absorb among them Rs. 700,00,00,000 and support 10,00,00,000 persons.

The remainder have an average income of about Rs. 50 per annum and absorb among them 825 crores.

The result of this calculation is that more than a third of the wealth of the country is enjoyed by about one per cent. of the population, or allowing for the dependents about 5 per cent. at most; that slightly more than another third, about 35 per cent. of the annual wealth produced in the country, is absorbed by another third of the population allowing for the dependents, while 60 per cent. of the people of British India enjoy among them about 30 per cent. of the total wealth produced in the country. [3]

This obviously unequal, and, to our mind, inequitable distribution of the wealth of the country is the result primarily of the social and political organisation under which this country and its people are living to-day. We shall discuss in the next chapter on the potential wealth of India some of these factors. But here one obvious lesson of the foregoing discussion needs to be emphasised. The unequal and inequitable distribution of the national dividend in India, though by no means peculiar to India of to-day, is still largely the outcome of too great a dependance upon one occupation only. India is overwhelmingly an Agricultural country. Her people are among the oldest of the world's races, and their civilisation correspondingly ancient. Mother earth, the ultimate source of all satisfaction for human wants that human ingenuity and activity can derive, has been under requisition for fifty centuries or more. In the language of the economists, the original and inherent powers of the soil may have reached the point at which they are, if not exhausted or incapable of renewal and recuperation, still forced to yield an ever diminishing return to the effort of man employed upon them. The penalty of thus ignoring the claims of nature is unavoidable. The Indian people must suffer their vitality to be undermined by a steady course of starvation while they continue to be dependent so disproportionately upon the unique and ancient but exhausted occupation of agriculture. Without a concurrent and proportionate development of industries, with the natural auxiliaries of trade and transport in proportion; without a proper opening up of the mines and the forests of India, there is no hope for a larger wealth-production in the country or even for its more even distribution. The pressure on the soil, if not excessive, must be reduced. That Agriculture in India is capable of revivification does not make an argument for the continued and excessive pressure of population upon the soil; improved agriculture, yielding larger returns, is necessary to improve the general standard of living in this country, which is to-day below the level of even the primary necessaries of life. But a redistribution of the population of the country as between Agriculture, including forestry, fishing and mining, and Industry including commerce and communications, is indispensable for a healthier social structure than is the case to-day. It would be absurd and futile to try and lay out an ideal scheme of distribution of the population. But, taking fully into account the conditions of India as they exist to-day and as they can be seen ahead as far as possible, perhaps the following lay-out might not be utterly unthinkable or impossible.

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[1] The number supported on each individual income is taken from the size of the family, assuming an average of 4 persons. In superior incomes the average size of the family is probably much larger; but we have assumed this figure as making no very material difference.

[2] The number of Income tax-payers is taken at 230,000 in place of the 238,000 in 1922-23 as mentioned in a reply of the Finance Minister quoted before, in order to allow for the number paying the Super-Tax, as also to have a round figure. If we take the figure at 2,000 more the difference would be about 1,00,00,000. It is compensated for in the next class which is also a round figure conveniently near the number we have arrived at before.

[3] The figures in all cases, population as well as wealth, relate to British India only.

Agriculture proper	to support	50	per cent.	or less	of the population
Forests	"	5	"		"
Mining	"	10	"		"
Fishing	"	5	"		"
Manufacturing Industry	"	20	"	or more	"
Trade both internal and foreign	"	5	"		"
Transport and communications of all sorts	"	5	"		"

In the next Chapter we discuss the potential wealth of India under these several heads, and also make suggestions for a better, healthier, more equitable distribution of the national dividend of material utilities.

CHAPTER V

The Potential Wealth of India

Depressing as the picture unfolded in the preceding pages no doubt is, there is no reason to despair altogether about the future of India, economically speaking. Much of the existing situation is capable of modification in a desirable direction by human intelligence and human institutions. It is possible that the continued exploitation for fifty or a hundred centuries of the resources of this country may have resulted in their impairment, so, at least, as to make them unable to respond proportionately as before to the efforts of man. The inherent economy of nature, however, has secured in these resources a power of recuperation which insures us against flat despair. Whether or not the so-called Law of Diminishing Returns has set in in the agricultural occupation of this country, it can only mean, at the worst, that the returns to the effort expended by man upon the tilling of the soil are not proportionate as hertofore, but are rather diminishing. That is quite different from saying that there is no prospect of absolute improvement, as distinguished from relative betterment. And even in the latter case, economists have recognised that their Law of Diminishing Returns from Agriculture is capable of being postponed in operation by the improvements effected by human ingenuity or the developments in human knowledge. It may be, that even now, after 10,000 years of continuous inhabitation and exploitation, all the resources of this great country are not known to the children of the soil. In proportion as new resources are discovered and brought into the service of man, the gross as well as per capita return may be increased. On the other hand, a much greater field is open to the ingenuity of man and to his intelligence in this richly gifted land, where with a slight increase in the effort, the reward or return will be much greater. We shall, accordingly, investigate in the following section the chances of improvement in the agricultural wealth of India, as much by the discovery of new sources of wealth-creation, as by the improvement in the effort applied to those sources already in operation.

1. THE AGRICULTURAL RESOURCES OF INDIA AND THEIR IMPROVEMENT

We must begin with Agriculture as it forms the most important section of the wealth of this country, and also because if the Law of Diminishing Returns can be said to have set in anywhere, it will probably be so in this instance. We must consider it, further, under the twofold aspect of (a) the possibility of adding to the existing resources in the matter of cultivation etc., and (b) improvements in the methods and appliances of cultivation which may also add to the sum total of the national wealth.

Agricultural Resources and their Improvements.

The following statistics tell their own tale.[1]

Area by Professional Survey in 1921-22	**666.619,000**	**acres.**
Area according to Village Papers 1921-22	663,508,000	"
Area under Forest 1921-22	85,419,000	"
Area under Culturable waste other than fallow	151,173,000	"
Area not available for cultivation	153,178,000	"
Area Fallow land	50,554,000	"
Area Sown (Net)	**223,184,000**	"
Area Irrigated	47,790,000	"
Area under Food-crops	215,508,000	"
Area under Commercial crops	40,731,000	"

From these figures it is clear that only about a third of the total area of the country is cultivated at all. Allowing for land not available for cultivation either because it is covered with forests or for any other reason, (the area covered by roads, railways, canals, boundary marks etc.), there is still a possibility of extending and increasing the physical superfices available for cultivation to the extent of at least an equal proportion. It is possible, if the classic assumptions underlying the Ricardian theory of Rent from Agricultural Land be true, that the land already in occupation and cultivation is really the best land available; that the land still remaining to be occupied and cultivated must be, economically speaking, of a much inferior kind, from which therefore the returns will be not at all in proportion to the returns from the superior land already in occupation. If the agricultural production in British Territory from the land already in cultivation may be taken to aggregate Rs. 1500 crores in value, and if the additional land still available for cultivation is taken at 2/3 of the area now under cultivation, i.e. 151

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[1] These figures are taken from the **Agricultural Statistics of India** 1921-22, Volume I. No. 1856 of 1924, Commercial Intelligence Department, India. They relate to British Provinces only. The figures about the Native States are unreliable as they are inaccessible. I have accordingly omitted the Native States from consideration in this Chapter; and wherever the exigency of the argument for purposes of rounding up requires it, I have inserted a proportionate figure for the Native States area and population.

The figures for the area have increased, it may be pointed out, between 1907-8 and 1921-2 from 619·456 million to 666·619 million acres (professional survey), culturable waste from 113·3 to 151·2 million acres, and the area sown with crops from 210·88 to 223·184 million acres (with a maximum of 229·620 in 1916-7).

Food crops area rose from 196·74 million to 215·5 million in the same period.

million acres, without allowing for land lying fallow, then the total potentiality for production from this land may be not less than 1,000 crores of rupees, assuming that the production on that land is about 2/3 of that on the superior land now in cultivation.[1]

This is, however, not the only source or means of adding to the volume and value of production from agriculture in India. The introduction of a more extensive system of commercial crops as against the food-crops will certainly result in a greater absolute money-return from the land. There may, no doubt, be other problems connected with this substitution. The question whether India grows sufficient food-stuffs to feed her own population or not must be decided first before any intensive activity is resorted to for the extension of the area under commercial crops.[2] But assuming, as we may, that there is room and to spare for the extension of cultivation in India, the increase in the area devoted to the growing of commercial crops need not be purchased at the cost of the food-crops. In fact, the area under both these descriptions of cultivation will have to be increased simultaneously. And if in spite of that the food-supply of India does not prove equal to the requirements of her own population, legislation may have to be enacted for restricting trade in the food-stuffs which result ultimately in the undermining by slow starvation of the vitality of the peoples of this country. In any event, the increase of the area for commercial crops, both possible and desirable, must result in an increase of the gross value of production from this channel. For the whole of India, we may estimate this increase to be: 1,000 crores per annum from the mere extension of the area under cultivation, which is cultivable but is not brought under the plough for one reason or another, in British India; a proportionate increase for the native States at ¼ of the above sum, (owing to the area being smaller and its character being poorer) or 250 crores in round figures; and, finally, by the substitution, wherever possible and desirable, of the commercial crops, which are to serve as the basis for an industrial expansion of India, even if they cannot be exchanged with other commodities from abroad, and which would aggregate in value, on a moderate estimate of 150 crores for British India and Native States put together,—or a total on all these heads for the whole continent of India of 1400 crores.

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[1] The above estimate errs, if at all, on the side of understating the potentiality rather than of exaggerating it. For the assumption is not quite justified that the land already in occupation is necessarily the best from the point of view of the yield. The possibility of using the land for more valuable purposes than those to which the land already in cultivation is devoted, *e. g.*, the growing of valuable commercial crops like tea or cotton or Drugs, may very likely result in the total produce being even more than in the case of the existing land. Besides, even the physical extent of the land available for additional cultivation may be greater than estimated in the Official Statistics, if due allowance is made for the slopes of unused hill-sides and the terracing of the same.

[2] The area under commercial crops reached the maximum in 1917-18, when it covered 45.71 million acres. This possibility is also inherent in the new land.

The extension of the area under cultivation must depend, we recognise, on social as much as on economic considerations of mere profitability. The facilities which alone can induce the extension of cultivation here desired,—such as the adequate supply of water or suitable means of transport and communications, or efficient machinery for the connected industries and for the exchange of the products of the land and the industry,—must be provided before we can contemplate the increase in the area and the improvement or redistribution of the forces applied to cultivation of all sorts. But the facts that India is already pressing too heavily upon the means of subsistence procurable from her soil already under cultivation, with the consequence that a growing proportion of her population has to live under most unhealthy conditions bordering upon starvation and chronic underfeeding; and that the extension here suggested is sure to yield results, proportionate or not, which in the aggregate must effect a most desirable change; are to us conclusive for the adoption, without the least delay, of every measure that could promote the well-being of the peoples of India, economically considered. Social and political institutions like the system of land tenures and Land Revenue, or of equal inheritance by the descendants of the same ancestors, may have to be radically recast if it is found that they act injuriously to this development. Land Tenures and Land Revenue systems have a direct bearing upon the incentive to the cultivator for his exertion. If they are not framed so as to afford sufficient inducement, the demand for an extension of the cultivation may be like a cry in the wilderness. We have already pointed out before the unequal, and, in our judgment, inequitable, distribution of the tax burdens which hamper the activities of the Indian people, and sterilise their exertions. The disproportion of taxation on the relatively richer class paying 20 per cent. in the aggregate and on the poorer class paying 12½ per cent. will be apparent if we consider what would be left for the private gratification of the individual paying the tax and his family. The former, with an average income of say Rs. 325 per head, pays 65 rupees in taxation per annum of all kinds, and has left 260 rupees for his private gratification. The latter, with an average income of Rs. 68.6 pays 8.5 rupees in taxation at the rate of 12½ per cent., and so has left little more than 60 rupees for all the needs of himself and his family. Relief is needed urgently by both sections. But the State cannot grant this relief without rendering its exertions for the commonwealth utterly nugatory. The only method of affording a substantial relief is to increase the wealth of the people, and thereby their ability to bear the tax-burdens. Here is an instance in which the wealth could be substantially increased. If its putting into effect demands a little reshuffling of the social pack of cards,—a little remodelling of the social environment,—shall it be refused even though the penalty is the steady starvation of at least 4/5ths of our people?[1]

Besides, however, the physical extension of the area under the plough, there are other methods, some tried, others awaiting trial, which are calculated to add to the sum total of India's agricultural wealth. The chief disabilities or difficulties of the Indian agriculturist may be conveniently summarised under the heading of water, manure, and methods and implements of cultivation. Let us see, taking each of these seriatim, whether there is any room for, any chance of improving the economic position of the country by a suitable adaptation of each of these agencies in the creation of agricultural wealth.

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1. Mr. Ramsay Macdonald, the present Prime Minister of the United Kingdom, writes, in his work on the GOVERNMENT OF INDIA : "A large part of the Army in India,—certainly one-half—is an Imperial Army, which we require for purpose other than purely Indian ; and its cost, therefore, should be met from the imperial and not Indian funds.'' Elsewhere he observes : "If the Empire would readjust the burdens which it imposes upon Indian Finance....the Indian Government could inaugurate great reforms which would increase Indian wealth....Only by such an expedient can I see the Indian Government avoid the dilemma : India needs more state expenditure; India cannot stand an increase in the burden of taxation.'' The dispute as to the best method of affording effective relief to the tax-payer is as old as the hills between the two schools of financiers who believe respectively in the reduction of expenditure, and the increase of taxation better adjusted, and better laid out.

The Indian Government of to-day labours under a special disadvantage arising from the natural distrust with which it is viewed by nationalist India. No community can progress or improve its economic position, without extending the scope of collective activity, and therefore unavoidably the amount of public expenditure. But any proposals of the Government of India in the direction of additional expenditure are bound to be looked upon with suspicion, since the lay-out of the existing public expenditure in India is certainly not in the benefit of India exclusively, or even principally. The via media of increasing the wealth is accordingly the only solution,—the only exit from this impending impasse.

That there is room for improvement in the yield from Agriculture in India is amply shown by the following figures compiled from **The International Year book of Agricultural Statistics 1909 to 1921**, published by the International Institute for Agriculture at Rome, 1922 :—*N. B.* The figures of area are in hectares, and of the yield in quintals.

Commodity	Details of Production	United Kgdm.	United States	France	Australia	Egypt	India	Remarks
Wheat ...	Total area ...	843,493	25,255,894	5,329,830	3,806,000	590,128	10,449,242	India has the second largest area under wheat but her unit yield is the lowest. The highest in Denmark is 34.3
	„ Yield ...	20,085,820	216,338,079	87,843,770	39,902,557	10,072,683	68,166,593	
	Unit „ ...	23.8	8.6	16.5	10.5	17.1	6.5	
Rice ...	Total area ...	..	413,593	50	...	122,129	32,873,775	India has the largest area and yield, but her unit yield is very low the highest being in Spain at 57.0 Quintals.
	„ yield ...	..	8,093,970	300	...	3,320,493	516,261,203	
	Unit „ ...	..	19.6	6.0	...	27.2	15.7	
Oil Seeds ...	Total area ...	19,483	471,464	18,173	...	272	904,105	India has the largest area and yield of oil-seeds, with the lowest yield per unit.
	„ yield ...	..	2,060,529	69,558	...	2333	2,733,166	
	Unit „ ...	..	4.4	3.8	...	8.7	3.0	
Cotton ...	Total area ...	..	12,718,193	..	8,556	541,912	7,480,510	Second largest in area and gross production, India has the lowest unit yield, in cotton.
	„ yield ...	..	180,825,35	..	...	1,482,624	8,128,378	
	Unit „ ...	..	1.4	..	...	2.7	1.1	
Sugar (cane) ...	Total area ...	..	84,580	..	...	...	963,543	According to the Report of the Indian Sugar Committee, the unit yield per acre was 1.07 tons in India against 1.96 in Cuba, and 4.12 tons in Java, and 4.61 tons in Hawaii.
	„ yield ...	..	..	..	...	...	...	
	Unit „ ...	..	..	..	...	...	...	

N. B.—Such monopoly crops as jute or opium, or special products like tea, are deliberately left out, as they are not fit subjects for comparison.

2. IRRIGATION IN INDIA

Taking first the question of water supply, it is true that Indian agriculture is mainly dependent for this indispensable factor in agricultural production upon rainfall. Rainwater, however, may be distributed unequally as between the different parts of the country, and irregularly as between the different seasons of the year, with the result that agriculture in the several provinces receives a sharply varying supply of water, and is accordingly of immensely differing productivity; and also that its success in the same province in the several seasons in the year may be considerably varying and irregular. Rain-water moreover is always an uncertain, unknown, unreliable factor, which may be in excess at one time, and might fail altogether at another. These vagaries of nature are capable of remedy by the conscious exertion of human intelligence and energy; and so from time immemorial the work of nature has, in this regard, been supplemented in India by the efforts of man. Irrigation works of varying dimensions have been constructed in all parts of the country by every Government that has ever reigned in the land; while private, individual effort of each cultivator is also not unknown. There are several classes of irrigation works in India, the immemorial well and the popular tank as well as the more recent and magnificent canals which may well be claimed to rank as some of the greatest triumphs of modern engineering and wonders of the world of to-day. Their relative utility and importance in the agricultural life of the country, this is no place to determine, though the subjoined figures of the area irrigated by these several forms of irrigation may give some idea of their importance and utility in fact. These figures do not represent the maximum extent of the irrigation works, which seems to have been attained in 1919-20, when the total area irrigated had risen to 48·96 million acres, and the total area cropped by irrigation was over 53 million acres. The remark may also be made in this connection that the utility of the small work, the well and the tank, does not seem to have fallen by the advent of the large, perennial canal; and it may even be said that while the larger works are more impressive to the eye, more imposing upon the imagination,

The area irrigated from	1912-13	1921-22
	acres	acres
Govt. Canals ..	17,764,317	20,477,028
Private „ ..	2,492,623	2,678,753
Tanks „ ..	6,825,189	6,999,069
Wells „ ..	12,350,801	12,127,040
Other Sources ..	6,106,144	5,507,789
Area of crops raised by irrigation ..	49,221,856	50,988,812

especially of the students revelling in the blue-books, the future seems to be with the less pretentious but more convenient smaller work. The introduction of the co-operative principle in the construction, maintenance, and administration of the irrigation works has still to be achieved; while the value of that principle in the increase of the agricultural production remains still to be perceived. That value may consist in an actual, concrete addition to the wealth of agriculture; but much more important, it will lie in the better and more equitable distribution of whatever wealth may be produced. In any event, whether it is private effort, collective enterprise or co-operative exertion the utility of these human contrivances to overcome the deficiencies of Nature cannot be gainsaid. Its concrete, monetary expression is given in the following figures:—(For 1921-22).[1]

Province	Net area cropped (acres)	Area irrigated by Govt. works	Percentage of area irrigated to area cropped	Capital cost of Govt. works to end of 1920-21. (lakhs of rupees.)	Estimated value of crops raised on areas irrigated from State works. (lakhs of rupees.)
Madras ..	37,533,000	7,229,000	19·3	1,189	4,139
Bombay (Deccan) ..	23,628,000	422,000	1·8	778	479
Sind ..	4,238,000	3,251,000	76·7	346	1,144
Bengal ..	23,701,000	105,000	0·4	367	70
United Provinces ..	33,697,000	2,673,000	7·9	1,402	2,481
Punjab ..	31,020,000	10,261,000	33·7	2,278	6,721
Burma ..	14,204,000	1,537,000	10·8	346	745
Bihar and Orrisa ..	8,874,000	1,003,000	11·3	626	584
C. Provinces ..	16,690,000	439,000	2·6	428	286
N. W. F. Prov. ..	2,876,000	439,000	15·3	282	336
Rajputana ..	240,000	24,000	10·0	35	10
Baluchistan ..	177,000	21,000	7·3	44	5
Total	196,879,000	27,604,000	14·0	8,121	17,000.

This gives a total of irrigated area at about a seventh of the total area under crops. For a total capital cost of 81.21 crores, the annual value of the crops raised on areas irrigated from state works only is 170 crores, a sufficient testimony to the utility of the irrigation works. It is true, some crops could have been raised on the area served by the canals even in the absence of the canals and other irrigation works; but the value of such crops would have been very much smaller, and on many millions of acres in all probability no crop could have been raised at all in the absence of irrigation facility of some sort. Irrigation by wells and tanks more accessible to individual effort and enterprise, more manageable by individual ability, more profitable to particular cultivation, is not considered in these estimates while it is undoubtedly true that very considerable increase in the wealth of the country can be made by a prosecution diligently of these works. As to the precise increase in the value of the produce capable of being raised by a suitable, adequate, regular, and sufficient provision of water supply, we can only make estimates from such figures as are available for the works already in construction or existence, and also for the works projected or under consideration. The following summary of the principal and important projects now at varying degrees of maturity is compiled from "**IRRIGATION IN INDIA,**" Vol. III of the **India of To-Day Series, by D. G. Harris.**

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[1] The above figures are taken from the Indian Year Book, 1924, p. 258.

N.B.—Area figures are in millions of acres, value figures in lakhs of rupees.

Project.	Estimated area to be added to cultivation.	Estimated capital Cost.	Estimated Revenue to Government	Net addition to country's wealth.
Sukkar Barrage	7·5	2750	300	3,750
Damodar Canal	0·2	105	...	...
Thal: Punjab	1·85	1400	570	...
Bhakra Dam	2·00	2175	...	...
Haveli	Details not given		...	...
Woolar	Details not given		...	...
Cauvery Reservoir	0·30	825	...	...
Kistna Dam	...	1275	...	...
Gokak Canal	0.13	300	...	...
C. P. 11 projects	0·70	...	...	...

Says the **Indian Year Book.** (p. 255)

"The irrigated area in 1919-20 was over 28 million acres. Schemes completed, but which have not yet reached their full development are expected to add about 100,000 acres to this total, while works under construction will further enhance it by 2½ million acres. Projects have also been submitted to the Secretary of State for sanction, which, if constructed, will add another 4¾ million acres; total eventual area in British India of about 36 millon acres is thus at present contemplated from works sanctioned or awaiting sanction, irrespective of the natural extension of the existing areas and of new projects, of which several are under consideration, which may be put forward in the future. The figures given are exclusive of the areas irrigated from the Punjab canals by branches constructed for Indian states, which amounted in 1919-20 to 650,000 acres. The sutlej Valley Scheme will add nearly 3¼ million acres to this area, so that a gross total of some 40 milllon acres from Government works is confidently looked to.''

The increase of the national wealth from this development may be calculated on the analogy of the figures already given relative to the value of crops raised by the aid of irrigation from Government works. For an additional 14 million acres irrigated, allowing for double cropping on some area and for the superior commercial value of some crops, (e.g., in Sind, cotton) we may say the addition to the national wealth would not be much less than 100 crores per annum from State Irrigation Works. Allowing a proportion for the private works, like wells and tanks, the aggregate increase that may be expected would be 150 crores per annum at the lowest computation. Adding this figure to the potentiality of 1400 crores increase from an extension of the area available for cultivation but not brought under cultivation we get a gross potentiality of 1550 crores.

Next in order of importance, we may take manure and other cognate aids to agriculture. The opinion of competent authorities, like Dr. Voelcker, do not suggest by any means that the Indian agriculturist is behindhand in knowledge or experience as compared to any of his confreres in other countries. The enrichment of the soil by the return to it of the properties it may have been deprived of in the process of cultivation has long ages since been understood and acted upon by the Indian cultivator. But the more modern articles of manure may either be unknown to him or inaccessible. The latter peculiarity owes its origin most probably to the very uneconomic conditions in which cultivation seems to have fallen throughout the country. Chemical manures are costly to obtain; and small bits of land ordinarily cultivated in India have no prospect of being able to use such costly aids to agriculture. In fact all problems about manures, machinery, labour are at bottom connected with the size of the holding which an average agriculturist in India can command. We shall accordingly discuss this question, combining with it the incidental inquiry about the aids to agriculture just mentioned, and see how far the position is capable of remedy.

3. IMPROVEMENT IN THE SIZE OF AGRICULTURAL HOLDINGS

The average agricultural holding in India is exceedingly,—ruinously, small. The figures quoted from the latest Census report in the last chapter give an average varying from (12.15) acres in Bombay to 2.5 acres per cultivator in the United Provinces. But these figures take no account apparently, of the real rights and encumbrances which each little bit of land separately recorded officially as a distinct holding has to support. Thus the Census Commissioner for Bengal, where the average size of the holding according to the above statistics returned is 3.12 acres, says:—

> "According to the agricultural Statistics published for 1919-20, there are 24,496,800 acres of land under cultivation in British Territory in Bengal, and the number of actual workers in cultivation, ordinary cultivators, farm servants, field labourers and growers of special produce in British Bengal is 11,060,629. This means only 2.215 acres per worker. It is in such figures as these that the explanation of the poverty of the cultivator lies. The cultivation of less than 2¼ acres of land cannot employ a man for more than a comparatively small number. The cultivator works fairly hard for a few days when he ploughs his land and puts down his crops and again when he harvests them, but for most of the year he has little or nothing to do." (Op. Cit. p. 244-5)

The report then goes on to point out how much larger area per cultivator is to be found in the other countries of the world which may be taken to be India's great rivals in the production of food-stuffs and the raw materials of Industry. Another writer on Indian Economic problems, Mr. Calvert, in his recent work, **The wealth and welfare of the Punjab,** estimates that the average cultivator in that province barely finds work for 150 days in a year. This is a tremendous waste of labour power; and must necessarily preclude any application of mechanical energy in Indian agriculture; [1] or even of those other aids like chemical manures which may involve disproportionately and insupportably large outlay.

As already observed, the existence of extreme fragmentation of agricultural land in India is due to the social system under which the Indian people have been living for ages past. But the modification of that system, which has necessarily if somewhat imperceptibly resulted owing to the superimposition of a non-Indian system of Government does not seem to have touched the root evil of the existing system. The Land Revenue systems, for example, of the different provinces now obtaining do not appear ever to have considered scientifically the minimum size of a holding that it would be possible to cultivate economically and profitably, as much from the standpoint of the interest of the individual cultivator as from that of the nation. No doubt they were aware, at the time of even the very earliest settlements of the Land Revenue, of that system of equal inheritance, which, in the days when population was scarce, and land was not exploited to its utmost capacity in a phrenzy of predatory cultivation, was relatively innocuous. And, besides, quite recently, while the early settlements were in progress, the most civilised nation in Europe, France, had revolted against and discarded for ever the system of Primogeniture in the devolution of landed property; so that it would have appeared going against the wisdom of the age had the first settlement officers endeavoured to upset or undermine the indigenous system of equal inheritance in regard to landed property. In France, however, the experience of several generations suffices to show, that the unquestionable evils of equal sharing resulting in extreme **morcellement** of land far below the margin of profitable economic cultivation are prevented by the voluntary resolve of the people to restrict their numbers. Population has not grown in France in anything like the proportions in which it has grown in the neighbouring countries across the seas and beyond the mountains; and wealth has multiplied by a very extensive supplementing of agriculture by industry. The analogy of France cannot, therefore, apply in India. The Anglo-Indian Land Revenue settlement officer could not postulate the desire and ability of the people to restrict their own numbers; nor could he call upon the Government so far to interfere with the customs and prejudices of an alien people as to compel them, by legislative pressure or administrative arrangement, to forego their ancient and prized institution. And, perhaps also, there was the consciousness that if they interfered with and altered such an institution as the system of equal inheritance, they would be deliberately creating the problem of the landless man, which they could not but look upon as a far greater curse. For the industrial revolution in Britain had not yet set in when the pioneers of the Empire in India determined upon a policy of the industrial extinction of India, which had resulted, in the first half of the nineteenth century, into a most satisfactory arrangement, whereby India seemed to have been destined providentially for the cultivation of the food-stuffs and raw materials which the obliging manufacturers of the British Islands voluntarily undertook to consume. The Classical English economists might well speak of a Territorial division of Labour, which seemed to be an indisputable ordinance of Nature condemning the tropical countries for ever to be the hewers of wood and drawers of water for the benefit of the European people.

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[1] The size of the average holding varies considerably in the different provinces; but the mere physical extent of the land is not decisive as regards the possibility of full employment afforded to the ryot upon that land. Very probably the land is of so poor a quality in provinces where the average holding seems to be larger, that the larger unit does not mean a correspondingly larger yield. Or, perhaps the seemingly larger holding is deceptive in as much as the rights and encumbrances upon the unit holding officially recorded separately, make the holder enjoy only a fraction of his official holding. Both these explanations apply in the case of Bombay.

In any case, in a country where there were no alternative means of employment, the deliberate creation, by a studied policy of Land settlement, of the landless man, could not possibly be thought of.[1] And when subsequently the need for interference of the State authority became apparent, in those provinces in which landed estates of the pattern prevailing in England had been established at the close of the eighteenth or the beginning of the nineteenth century, they interfered and introduced a whole series of Land-Lord-and -Tenant legislation, not with a view to conserve and preserve the agricultural resources of the country by securing an economic system of land cultivation on suitable-sized holdings, but rather with a view to restrain the land-lords from demanding exorbitant rents from their Tenantry. Tenancy legislation is thus valuable only as a precedent. It has no economic significance so far.[2]

It would be unjust to some of the greatest of the early settlement officers in India to say that none of them perceived the necessity of doing something towards instituting holdings of an economic size. But their conception of an economic holding, or rather their mode of approaching the problem, was erroneous. They thought rather of the full utilisation of the resources of an average Indian cultivator of their day, in moralising about economic holdings, without allowing at all for the possible improvements in the art of land-cultivation that even then were looming on the horizon. And they utterly failed to perceive the demand side of the question. "What is an economic holding" was a question, which, wherever it was formulated, as in the Bombay Presidency for example, was answered on the basis of how much the average Indian cultivator with his ordinary equipment could cultivate successfully. Land tillable with the aid of a pair of bullocks was suggested as one definition of an economic holding.[3] But obviously the extent so defined must vary according to the character of the soil to be tilled. And even then the produce raised may not at all be proportionate to the requirements." "What is the average ordinary demand that a unit of land must satisfy" was an aspect of the inquiry which was altogether omitted. The result was unavoidable. Even when the system of settlement concentrated only on individual ryots and individual survey numbers,—thereby suggesting that a survey number would be a single, suitable, economic plot,—they could not prevent actual, subsequent subdivision by the creation of additional rights upon a given piece of land. In other words, the problem as to how best to lay out the land so as to make it afford not only the fullest possible employment to man and beast quartered upon it, but also how to obtain the utmost possible yield so that the primary wants of man and beast quartered upon that land may be satisfied, has never so far been considered in this country. The result is that land is cultivated in a most uneconomic and unprofitable manner; its yield is fractional of what it might be; and the aids and appliances to promote that yield are of the most primitive, not because the people do not know them, but simply because they cannot afford them, as it would not pay them to go in for costly methods of cultivation.

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[1] The first Land Revenue Settlement Report in the Bombay Presidency, the so-called Joint Report of Wingate and Goldsmith, definitely makes mention of this danger of the landless man, had they attempted to define more precisely a unit holding and had they proposed measures to prevent its subsequent dismemberment. Individual officers were powerless to remedy such a national evil, even when they were sagacious enough to perceive it; and so it would be unjust to hold individual officers responsible for the consequences.

[2] In the Punjab and elsewhere they have introduced legislation to prevent agricultural land from getting into the hands of non-agriculturists, who may be presumed to be not directly personally interested in the cultivation of land. This kind of legislation is economically very valuable: but its purpose is apt to be misunderstood by a justly suspicious population, since it limits the proprietory rights of the proprietors.

[3] The land Revenue Settlement in the Bombay Presidency, though it has its faults, nomen illis legio—has made the closest approach to a considered and scientific settlement in this regard.

The evil is undeniable. It stares every one who at all thinks on such matters in the eye. Its difficulties are also undeniable. The problem of the landless man is perhaps more acute to-day than a hundred years ago; and it must have been the dim, subconcious perception of it which prompted the greatest popular leader and representative of modern India to harp upon the primitive spinning wheel, the **Charkha**, as the only salvation for Indian evils, The **Charkha** has no future against the machine-made cloth. Great intellects now busy insisting upon its universal adoption cannot but have perceived it. But it is the expression of national helplessness, if not despair, that they should insist upon an antiquated and unprofitable method of taking off the surplus population from agriculture, so as at least to give this premier industry of India a sporting chance to make good. As a subsidiary industry, as a bye-employment, there is and can be nothing to be said against the spinning-wheel. As a principal occupation it is futile, bound to be wasteful, and even positively injurious in the very likely industrial competition which India will have to face in the near future, and especially if she is a self-governing country. The agricultural occupation is, however, overcrowded, to the extent at least of a third of the population now engaged primarily or principally in agriculture. That surplus population intensifies their own as well as the nation's poverty. We cannot suggest the methods of Timurlane or Chengiz Khan to remedy this surplus, though, be it said in all seriousness, those are the only effective methods with rapid and unfailing results. The Spartan creed may have to be adopted in the national interest, and we shall have a word to say about it in another phase of this argument. Here it is necessary to repeat and emphasise that Agriculture in India cannot be as profitable and prosperous as it has a right to be, unless and until measures are devised to take off the surplus population which now presses upon it with fatal consequences.

The definition, then, of an economic holding, as we would like to see enforced, would take into consideration the double requirement of:—on the one hand the possibility of the fullest employment, say for at least 300 days in the year (or their equivalent in hours,) to the human element concerned with it, as well as to the equipment that human element is able to dispose of, whether animal or mechanical; and, on the other hand, the satisfaction of the immediate demand arising out of all the primary wants of the human element dependent upon this land, with a necessary margin for that section of the population which must be employed in alternative occupation. This definition must necessarily give us a varying unit size in the different provinces according to the different characters of the soil concerned, the crops concerned and even the markets concerned. But the cultivation which results after such a redistribution of land would be far more effective and productive, though the qualitative expression of that increase in production cannot even be estimated to-day. Doubling the yield, or tripling even, may not be beyond the bounds of possibility, if we resolutely set about clearing the weeds and brambles that now infest our social system and its economic expressions.

We have just mentioned the need for a redistribution of land if the desired increase in production is to be achieved. The institution of the economic holding is unthinkable, if and while we refuse to recognise or remedy the preliminary difficulties that have hitherto rendered the change impossible. Industries will have to be developed on a far larger and more intensive scale than has been the case in the last hundred years to afford the alternative occupation without which no relief to agriculture is possible. And if industries of the modern type must take time to develop; if the difficulties in the way of instituting such industries satisfactorily are practically insurmountable with our present equipment in the matter of concerted action, we must perforce agree to develop subsidiary occupations affording seasonal employment to the agriculturist in his spare time, so to say. Such employment, judged by the standards of modernised industry, must be necessarily wasteful and uneconomical. But on the wise old adage that half a loaf is better than no bread at all, we must even put up with this wasteful and uneconomical, but still a remedial expedient for the relief of our agriculture.[1]

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[1] Mr. Gandhi, the apostle of the Spinning-Wheel in modern India, is a believer in the simple life, who would not perhaps accept the basis of the modern economist, who is inclined to test the merits of his suggestions by their effect upon the volume and value of production,

(Footnote continued on next page.)

The modus operandi for bringing about the relief may be different in the different provinces, according to the structure and composition of the society in each case, and also according to the resources available in each instance. The prevention of dismemberment by special legislative provision may be possible, and quite commendable in the case of new land brought under cultivation for the first time as the result of some special activity of the State, as for example, in the canal colonies in the Punjab, or the land expected to be obtained as the result of the several irrigation projects above referred to. In such cases land may be originally sold or leased on the distinct agreement between the state and the farmer that the land shall in no case be fragmented; and that devolution of property in such a case will have to follow a special course, irrespective of the customs of the people. [1] On the other hand, in cases of settled provinces or lands, the evil of fragmentation may be guarded against by special legislative or administrative arrangements to promote **consolidation of holdings**, whether by the principle of pre-emption or even by the introduction of co-operative farming. The former is necessarily difficult

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(*Footnote continued from previous page*).

and perhaps with a thought to spare for a more equitable distribution of the national dividend. But on one occasion he challenged the present writer to produce a scheme of alternative relief to Agriculture as distinguished from his propaganda about the spinning wheel, which the writer maintained is uneconomic. If the basis of the argument, and the standard of judgement is to be the benefit of production,—the increase of the material utilities—there would be no great difficulty in meeting the challenge. In the present chapter the possibilities are indicated, collectively for the whole of India, which may be summarised separately for each of the provinces, of industrial, mineral, forest and commercial development that might successfully take off the surplus pressure upon the soil, and at the same time add very considerably to the sum total of production in India. Thus:—

Assam has special facilities for Tea gardens and other exotic cultivation and forest development, where accordingly surplus population may be absorbed; Bihar and Orissa has possibilities in regard to Mining,—Iron and Coal particularly, and so Mining and Mineralogy might take up the extra Bihari population in that Province; Burma has immense Forests and unknown mineral resources, so that forest culture, together with forest industries, like paper making, and mining and mineralogy might take off not only the surplus population of that province, but also the surplus from those other administrative units, which, like Madras, do not seem to have much promise of industrial expansion in their own territory. Bengal has several possibilities in the case of the margin still available in the jute industry and engineering works, though her population is large enough to occasion anxiety for its absorption in occupations more profitable or productive than Agriculture. The United Provinces have Forests, and the Punjab Mineral possibilities enough to give them the relief they might need, not to mention, in each of these cases, the possibility of extension of culturable land by the progress of irrigation works. They will, in all probability, remain largely agrarian provinces. The Central Provices, again, have mineral possibility, which may take off the surplus in that area, while Bombay in spite of her well developed industries to-day contains great promise for further developments in the same direction, and in fishing, which may take off not only the surplus population of the Presidency proper from agriculture, but also afford margin for absorbing a certain limited proportion from other provinces as well. Bombay, Burma, and to a lesser degree the Central Provinces and Bengal will, thus provide scope for internal migration of the population, while Madras will for some time remain the province which would need extra provincial relief of this nature.

[1] A precedent for this kind of special legislation may be found in the special Mariage laws provided for the Brahmos in Bengal.

in a country where the agriculturist is notoriously poor, and lacking in capital. We may, indeed, seek to countermine the effects of a lack of capital by developing co-operative credit, or instituting Land Mortgage Banks.[1] But even so, the change will be at the best extremely slow, and possibly not exactly in the direction one would wish for. The only real, effective solution of the entire problem is the introduction of collective,—or, if that is not palatable to the commercially minded individualist generation we are living in, then Co-operative Farming, under which the entire land of a village,—the smallest convenient unit, may be tilled, harvested, and the crops marketed jointly by all the inhabitants of the village, or by all the actual farmers and cultivators at least. There may be difficulties in the way, such as the reconciliation of co-operative farming with the individualist Land Revenue policy now prevailing in most of the provinces, likely to benefit by such an expedient; but there is really nothing impossible inherently in the suggestion. The revenue of the Government may be guaranteed by the co-operative association of the entire village quite as effectively, if not more so, as the individual tenant on the roll of the State; while the increase in production would be enormous. The following scheme outlines the working of a co-operative unit of this nature; and as the scheme was prepared by Dr. Mann, the Director of Agriculture in Bombay, it cannot be exposed to the criticism of having ignored the practical difficulties in the way.

NOTE ON JOINT CULTIVATION SOCIETIES

At the Provincial Co-operative Conference in 1921, a Committee, of which I was the Chairman, reported that in their opinion the only feasible way of meeting many of the difficulties, particularly in the famine districts, was by transferring the land to Co-operative Societies for joint working in some form or other. This, it was felt, would at once get rid of the evils of fragmentation of land, and would also enable permanent improvements to be carried out so as to make better use in one way or another of the existing rainfall. A good deal of doubt was expressed as to the feasibility to getting cultivators to agree to any such arrangement, and as it was felt that the difficulties in the way were very great, it was decided to devote the year to experiment in one or two places.

There are obviously two ways of carrying out joint cultivation. The first is by combination of the land into one or more large holdings to be worked as large farms, the owners becoming labourers for wages on the land. A society embodying this method has been established by Mr. M. R. Godbole at Arjunsonda in the Sholapur District, and I anticipate he will report on this. I am myself identified with an experiment in which the land is leased to an unlimited Cooperative Joint Cultivation Society, but the cultivation is still done on an individual basis by the members. The part of the Society is to divide the land into suitable units for cultivation, to provide bullocks and seed, to direct the crops to be grown, and to provide the finance. The part of the members is to cultivate and to receive a share in the produce, first in their capacity as owners and then also in their capacity as cultivators. The village chosen for the cultivation is Bhambhora, a village on the banks of the Bhima in the Karjat Taluka of the Ahmednager District. The advantages of this village were (1) that there was engine and pump on the river which had been little used for irrigation owing to hopeless division of the land; (2) that there was a very keen well educated and public spirited gentleman Mr. C. R. Honap, B. A., belonging to the village who has really devoted himself very whole-heartedly to this matter during the year; and (3) that owing to the famines the village credit had almost disappeared, bullocks had died, and land was passing out of cultivation.

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[1] The progress of the Co-operative Credit movement in India has not been quite as satisfactory as the inherent utility of the movement would suggest, perhaps because of the initially wrong basis on which the movement has started. For a critique of the co-operative credit movement in India, as for a Land Mortgage Bank, see the present writer's *Indian Currency, Exchange and Banking*.

The difficulties have been many, and some of them unexpected. The question of division of profits was perhaps the greatest, and after much discussion with the people themselves, a batai system of division of produce in the field or threshing floor has been adopted. Under this, in principle, (with variations in details on different classes of land):—

(1) One third of the produce goes to the owner, as owner, subject to a deduction of 25 per cent. to go to the reserve fund. The owner pays the assessment out of his share.

(2) One third of the produce goes to the cultivator, in his capacity as cultivator, subject to deductions for repayment of advance etc.

(3) One third of the profit goes to the Society, and is to cover cost of bullocks, seed and interest on its investment in these and in permanent improvements. In the case of irrigated land, the cost of water is shared between the parties.

A feature of the Society is the Committee of Control, comprising two members of the Managing Committee of the Society and four outsiders nominated by the Registrar to Supervise any capital outlay by the Society and generally to keep an eye on the conduct of the Society.

This is a mere sketch of the scheme now working which promises to succeed very well. I hope to give details of difficulties met, and progress made at the Conference.

The scheme is really defective,—even against the fundamental principle of co-operation inasmuch as it introduces a distinction between the owner and the cultivator of land, and also because it provides too great a proportion for the Society. The basic idea of the co-operative arrangement would require that all be equal owners equally interested in the success of the experiment; while the division of profits must be made, not on the basis of the employer and the employed,—which the distinction between the owner and the cultivator in the above scheme hints at—but rather on the basis of the joint owners of a single concern. But these defects apart, the system however is worth a trial. It is big with the promise of future possibilities particularly in the increase of wealth, but also in the improvement of the system of distribution. And though we can make no reliable estimate, in terms of rupees, annas and pies, as to the net gain the country should expect to derive from such an arrangement, it can safely be said that the gain, even monetary gain, would run into several hundred crores worth of additional produce every year.

From the extensions and improvements outlined above, we may well conclude that the addition to the annual production in agriculture alone would be equal to doubling the present production in that department, qualitatively, at least, if not quantitatively as well. Assuming that the value of the agricultural production in India during a normal year is 2100 crores of rupees, (*Vide* BOOK 1.) the potential increase in these directions may be safely taken to be such as would bring up the total to not less than 400 crores worth of agricultural produce in the whole of the Indian continent.

THE FOREST WEALTH OF INDIA

The economic importance of the wealth concealed or locked up in the extensive forests of India has yet to be perceived. The Government in India constituting itself the sole owner of forests has classified the forests of India, according to the purposes they mainly serve, into four main classes. In the first group are forests whose preservation is essential for physical reasons, like their effect upon rainfall, or their action in preventing floods or saving corrosion. These are inextricably connected with the general economy of the nation, and as such may be left aside as not particularly important from the standpoint of potentiality in increasing the total national wealth of the country. Forests, on the other hand, which afford enormous supplies of good commercial timber, e.g., Teak from Burma, Sal from the Central, Northern and North-Eastern districts, and Deodar from the Himalayan provinces, are an excellent source of additional wealth, the full extent of which is impossible to estimate exactly at the present moment. The third group contains minor forests, which produce inferior kinds of timber, and are managed for the supply of wood, fodder, grazing and other produce,—all principally for local consumption. The last class of forests as officially so described is rather pasture ground than forest proper. But in the whole of this classification adequate attention does not seem to have been devoted to the utility of the forests as the storehouse of immense industrial possibilities. Resin and terpentine and sandal-wood oil are among a few of the commercial possibilities realised so far. Match-making and paper pulp and drug manufacture on a large scale do not seem yet to have got their due from the Indian Forest administration. The difficulty of forest administration and development lies in the direction of improved means of transport, which must necessarily involve more capital outlay before, however, the forests can be made to pay. But the experience of forest development already gained in this country,—and the proved possibilities of scientific sylviculture and exploitation in other countries [1] is sufficient to warrant the assumption that the wealth from the forests of India developed commercially as well as industrially might aggregate 50 or even 100 crores per annum. The following figures would be interesting.

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[1] In Germany before the War, the Forests gave employment to a million people out of a total population of 60 million, and produced, wealth which aggregated £30 million or 45 crores of rupees. In India to-day forests do not employ all-told more than 1¼ million people, including their dependents, and the total forest revenue produce is not much above 5 crores per annum. And yet the forests of India are far more extensive than those of Germany.

Province.	Total Area sq. miles.	Forest Area.	Percentage of forest to Total	Revenue 1921—22	Expenditure 1921—22
				Rs.	Rs.
Bengal	78,668	10,624	13·5	18,98,959	12,88,122
United Provinces ..	106,720	7,443	7·0	86,46,677	74,04,688
Punjab	97,281	6,615	6·8	49,91,178	43,76,076
Burma	243,232	144,708	59·5	2,21,16,787	90.83,094
Bihar & Orissa	82,987	3,032	3·7	9,00,373	9,94,655
Assam	49,247	21,463	43·6	12,97,027	9,91,511
Central Provinces ..	99,947	19,792	19·8	41,33,693	27,15,821
Madras	142,257	19,304	13·6	48,69,171	51,15,356
Bombay	123,225	12,632	10·3	74,93,563	50,23,946
Total British India ..	1,098,341	249,504	22·7	5,83,16,071	4,08,51,878

From this table it is evident the forests in all the provinces are not as productive as they might be. The yield per square mile of forest area is: It would perhaps be not quite fair to argue that there is an equal possibility for development in all the provinces, and that the money value of the produce raisable from these forests is likely to be the same per unit. Still, when we find the rate of yield per unit differing as between the Provinces nearly 20 times, (Assam and U. P.), we cannot doubt the fact that there must be ample room for further improvement. The details of the forest produce, moreover, show that the exploitation of the forests as an adjunct to industries is hardly yet considered, the products being all the crude products of the ordinary jungle. The development of industries from the forest produce, *i. e.* paper making from wood-pulp, (India imports some 2·5 crores worth of paper and pulp every year in spite of her large resources in the matter of wood) or drug culture, or the investigation into the possibilities of fibres other than those now used for the textile industries or rubber, awaits the advent of a more energetic, if not a better informed, and a more determined and sympathetic national Government; for Forest Development by private, individual initiative is not to be thought of. Given a suitable development of the forests, to increase in the wealth from that source to a total of 100 crores per annum is not at all impossible in the near future, with an employment to additional population somewhat on the subjoined model.

	Rs.
In : Bengal ..	178.7
U. P.	1161.5
Punjab	754·5
Burma	152·8
Bihar	296·6
Assam	60·4
C. P.	208·8
Madras	257·4
Bombay ..	593·3
India	237·7

Details of forest produce 1921-22.	
	Rs.
Wood	478,14,983
Minor Produce.. ..	44,12,301
Forest Stamps.. ..	1,69,697
Grazing	29,45,032
Other Forests	4,18,035
Miscellaneous	25,56,023

Province.			Population depending on Forests to-day.[1]	Population possible to employ on forests if fully developed
Assam	...	...	4,799	928,000
Bengal	...	...	23,796	1,840,224
Bihar and Orissa	...	...	26,573	938,660
Bombay	...	...	69,569	313,838
Burma	...	...	81,915	633,476
Central Provinces	...	...	11,085	506,628
Madras	...	...	68,470	1,223,104
N. W. F. Province	...	...	6,597	33,000 (roughly)
Punjab	...	...	22,591	237,300
United Provinces	...	...	32,557	293,013
	Total	...	347,952	6,947,233

The largest number employed in Forestry, according to the Census of 1921 is in Burma, being 62 per 10,000 of population, while the lowest is in Bengal, being 5 per 10,000. The largest yield per square mile on the other hand is in the United Provinces as already pointed out. The figure in the last column of this table is worked out on the assumption that the forests in all the provinces were developed to make an yield as good as that in the United provinces, and at the same time gave employment at least as extensive as in the most popular forest Provinces of to-day. This estimate does not allow at all for the potential wealth locked up in the forests of India if developed on the scale attained in countries like Germany for example.

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[1] The Forest wealth has been estimated in Book I for 1921-2 at Rs. 28 crores (cp. p. 157.) There we have taken into account far more articles than are included here; while an allowance has also been made there for the Forests produce value in the Native States. Our estimate of a potentiality of 100 crores is thus extremely conservative.

THE MINERAL WEALTH OF INDIA

But it is in the mineral wealth of India that perhaps the greatest potentiality seems to be involved. The annual worth of the principal minerals produced in India was, in 1922 as follows[1]:—

(*All outputs are given in tons unless otherwise stated*)

Mineral	Quantity	Value	
		Rs.	£
Alum	331	99,790	6,651
Amber	3.6 cwts.	1,960	131
Asbestos	242	10,520	701
Barytes	2,392	48,000	3,200
Bauxite	4,919	15,948	1,063
Building Materials	...	59,22,498	394,833
Chromite	22,777	3,61,287	24,086
Clays	104,748	2,73,272	18,218
Coal	19,010,986	14,63,30,145	9,755,343
Copper Ore ...	30,804	3,07,635	20,509
Diamonds ...	17,139carats	91,648	6,110
Fuller's Earth ...	13,539	36,664	2,444
Gold	438,015 ozs.	2,78,63,479	1,857,565
Gypsum	40,645	64,479	4,298
Ilmenite	400	18,000	1,200
Iron Ore	625,274	15,66,430	104,428
Jadeite	7,805 cwts.	24,86,969	165,798 (a)
Lead Ore	172,066	1,41,77,053	945,137
Magnesite... ...	19,273	2,40.692	16,046
Manganese ore ...	774,860	1,72,76,312	1,151,754(a)
Mica	43,145 cwts.	57,85,245	385,683(a)
Monazite	125	28,065	1,871
Ochre	6,702	57,180	3,812
Petroleum... ...	298,504,125 gallns.	10,77,75,652	7,185,043
Ruby	83,078 carats.	6,45,304	43,020
Salt	1,653,898	1,22,88,270	819,218
Saltpetre	11,673	35,22,995	234,866
Sapphire	102,462carats	76,045	5,070
Silver	4,244,304 ozs.	1,01,28,504	675,234
Spinel	35,620 carats	5,963	397
Steatite	906	36,395	2,426
Tin	218	5,33,395	35,560
Tin Ore	1,874	23,01,041	153,403
Wolfram	943	3,75,532	25 035
Zinc Ore	18,061	13,57,575	90,505(a)
Zircon	160	19,200	1,280

a=export figures.

Taking the 10 principal minerals, we find them, in the order of importance in the above table, to be : (1) Coal, (2) Petroleum, (3) Gold, (4) Manganese, (5) Lead ore, (6) Salt (7) Silver, (8) Building materials, (9) Mica, (10) Saltpetre. Iron and steel goods for which there seems the greatest possibility figure very low down in the list. Let us briefly note the possibilities of these, if the country were evenly developed all round.

COAL

The principal coal resources of India are:—

Raniganj : Estimated reserves ; 518 million tons 1st class, 360 million tons medium quality; and second class fuel "totals thousands of million tons." In 1921, it produced 5.21 million tons or 27 p.c. of India's total. Taking the total resources of this field at only 3000 million tons, worked annually at only 1 per cent. of the resources, the output is capable of being increased about 6 times the present, or 30 million tons per annum in a single field.

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[1] Appendix, India's Mineral Wealth, by J. Coggin Brown, India Of To-day series, Vol. IV.

JHERRIA.—1st. Class Coal reserve 480 million tons, "but other estimates of coal of superior quality put the reserves at a much higher figure. As in the case of Raniganj field, there are vast stores of more inferior material." (op. cit p. 33-4) It now produces 10 million tons or about 50 per cent. of the total Indian output. Assuming its total reserves to be also 3,000 million tons,—they must be far more if we take all sorts together,—and allowing for an exploitation of 1 per cent. per annum of the reserves only, the output would be at least trebled to 30 million tons.

BOKARO.—In a single seam estimates put the reserve at 650 million tons The total reserve of the entire field may be taken at 1,000 million tons at the very lowest. Present output under a million. On a one per cent. annual exploitation, it may be raised to 10 million tons per annum.

KARANPURA.—In 1867-8 the survey officer estimated very conservatively the reserve in the northern field of 8750 million tons, and in the southern one of 75 million tons. This field alone might yield 100 million tons per annum, if fully developed and exploited.

The coal fields of the Central Provinces are estimated to contain some 300 million tons reserve, and might well yield 3 to 5 million tons per annum. In Assam, Baluchistan, Burma and the Rajputana fields, the possibilities are almost unknown, but a total from these reserve deposits at 100 million tons will be erring on the safest side. The total possibilities of development in coal mining alone,—with a programme of working the known deposits in a hundred years by which time some substitute for coal will surely have been discovered and put into use more economically, may be taken at 200 million tons per annum, as against the record output of 22 million tons recently. Allowing for a reduction in the price by this increase in quantity,—though there is a great room for stimulating demand,—the 20 crore tons of coal might well be taken to be worth 50 crores as against the 15 crores of to-day, at inflated prices. At present it employs only about 200,000 labourers, but it has a potentiality for employment for at least 1,000,000. But these estimates are extremely conservative, and are based upon absolutely no knowledge of the possibilities in some of the biggest sections of the country.

PETROLEUM

With an annual output reaching over 300 million gallons, we can still hardly say that India has reached the maximum possibilities in the matter of petroleum production. But it is hard to judge of the eventual possibilities, particularly as they embrace areas not even properly surveyed, as for example, the border territory of the Punjab. Doubling the output and employment in this depatment will perhaps not be an overestimate of the possibilities.

IRON AND STEEL

The most remarkable possibilities for development, however, seem to lie in the direction of Iron and Steel goods. India annually imports such goods running into nearly 80 crores of rupees per annum. Her own present production scarcely equals a third of the total Indian demand, and the full realisation of all the developments that are planned to-day will perhaps barely equal the present needs of India herself. And yet India has some of the richest Iron ore deposits in the world. Those of Orissa, Singbhum and Keonjar Bonai and Mayurbhanji alone, are estimated to amount to 2,832,000,000 tons with ore containing 60 per cent. of iron at least. The Central Provinces, and, in the South, the Mysore territory, are rich in such deposits[1]; so that should India have industrial developments to the extent that Steel and Iron goods are produced within her frontiers aggregating 20 million tons,—steel 5 million and pig iron and other iron goods as well as mere ore accounting for the remainder,—there ought to be nothing surprising in that 5 million tons steel goods would, at Rs. 100 per ton, be worth 50 crores; while the remainder may account between them of at least another 60 to 75 crores. The Iron industry, with all its subsidiaries, including possibly the iron ship-building would thus increase the wealth of India by about 100 to 150 crores per annum and would probably afford employment to at least 1,000,000. The provinces chiefly likely to benefit by the development of the Iron and Steel industry are, directly at least, Bihar and Orissa, the Central Provinces, the Mysore territory, and parts of Burma and the Madras Presidency. Indirectly all the provinces might benefit, and principally the industrial provinces and railway centres of Bombay and Bengal. Agriculture would also receive an indirect impetus from the development within the country of an up-to-date Iron and steel industry. And, if the country itself has a limited market for the Steel goods, the less developed lands beyond her frontiers might quite possibly afford excellent market for the Indian Iron and Steel industry. Ship-building—mercantile or fighting marine,—must necessarily affect the maritime Provinces only,—principally Bombay and Bengal. The role of the ship in the development of the wealth of the country has yet to be understood by the powers that be in India to-day; but we doubt not that an Indian Mercantile Marine,—a total of 200 steamers of all sorts and sizes, for inland as well as ocean navigation,—would quite suffice to do the entire carrying trade of India, and thus save India one of the least perceived but the most considerable deduction India now has to make in favour of her foreign carriers, at the same time affording employment to 1,00,000 individuals of all ranks. This does not, of course, include the fishing fleets that may quite possibly come into existence as the result of a policy of intense industrial development in the country. Altogether, then, we may estimate that the Iron and Steel industry, together with its supplementary industries in the carrying trade on land as well as on water, in agriculture as in industry in general, by the saving it may help to effect or by the actual addition it makes to the wealth of the country, would, fully developed, provide employment for roughly 3 million people and add 200 crores at least to the nation's available dividend.[1]

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[1] **India's Mineral Wealth** *op. cit.* p. 58-9. The present programme of development for the principal steel-making establishments in India is estimated to produce when completed about 500,000 tons of Steel, and a million tons of Pig. See the pamphlet by the present writer on the **Iron and Steel Industry of India**, published under the auspices of the Fiscal Reform League, India. The difficulties in the way of the fullest possible, and the most economical, development of the Steel and Iron Industry are rather financial than those arising out of the want of suitable material or market. The Government of India have at last recognised the importance of that industry by granting tariff protection to it. (1924)

The other minerals, including salt and saltpetere, may be dismissed in a few words. Mica is drawn by the world as a whole principally from this country, but gold and silver are relatively unlikely to yield higher results by futher development. Common salt is a necessary of life which has perhaps been restricted in production owing to the financial policy of the Government in that regard; while all other salts may have a future which we have at present no means of estimating even roughly. Altogether, then, we may conclude that the potential mineral wealth of India cannot be less than 250 crores per annum, and may very probably be much more.

5. FISHERIES AND FISHING IN INDIA

The potentialities of Fishing and Fisheries in India are almost impossible to estimate. Were we simply to take the analogy of countries like England, the potentialities would seem to be enormous for a country which has a shallow water area of several thousand square miles. At the present moment the annual wealth from this source is about 3 crores per annum; and the experience of those governments which have endeavoured to develop deep-sea fishing on a commercial scale are by no means all that one would desire them to be. Still, when the error is discovered, and the right policy found for the full development of the fishing industry, the Indian waters hold enough possibility in an eventual annual yield worth 100 crores giving employment to 50 million people at least.

The total potentialities under all these several heads of Agriculture, Forestry, Mining and Fishing, may be taken to be,—for British India alone—of close upon 2,000 crores per annum (1,500 crores Agriculture, 100 crores Forests, 250 crores mining, and 50 crores Fishing, with a saving in shipping charges of Rs. 50 crores per annum equal to 1,500 crores in all). For the whole of the Indian continent this may be estimated at 2,500 crores at most, the Native States area, so far as is now known, being not proportionately rich either in minerals or fishing; and even the agricultural possibilities there being relatively lower.

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[1] See the Report of the Mercantile Marine Committee for india recently published (1924); also Mr. S. N. Haji's **Economics of Shipping Industry** for a more detailed consideration of the possibilities of a mercantile marine of India from the point of view of adding to the wealth of the country.

The relief in population possible on this computation would be:—in Forests and allied industries, about 7 million people all told, including dependents; in mining and mineral development 3 million people, or with their dependents about 15 million souls; in fishing 5 million souls all told, or a rought relief to agriculture of about 27 million.

6. INDUSTRIAL POTENTIALITIES OF INDIA

The greatest potentiality for further development, however, is in the industries. India is by nature endowed to be a country which can, properly developed, produce almost anything that humanity can possibly require. She has raw material enough for all her own requirements in every department of human wants, and her labour supply is, if any thing, much too excessive. It is true, the labour force of India is untrained, unorganised, unskilled, unused to work under modern industrial conditions. But granted the defects, it does not follow that the defects are insuperable, irremovable. In textiles, in mining and metallurgy, in hides and skins, in all the thousand and one possibilities of smaller industries, which, being more artistic than mechanical, have necessarily to be conducted as cottage industry, e.g., wood carving, ivory working, embroidery of all sorts, and fancy work of all kinds, in metals and marble and stone and wood,—there is an immense field for systematic scientific development. The present total of about 250 crores worth of the produce of our national industry is capable of being multiplied to we cannot say what extent, if only a suitable industrial policy is adopted for the fullest possible development of the industry and the resources of the country.

Take the illustration of the Textile Industry alone. In the Cotton industry alone, the Indian production of raw material is about 5 million bales on an average, whereas the Indian consumption in cotton mills is barely 2 million, or 40 per cent. of the total. To the extent of the remaining 60 per cent. of the raw material there is clearest possible evidence of the possibility of expansion. For the ambition to manufacture ourselves at least all the raw material we produce within our frontiers cannot possibly be disputed either as extravagant or injurious to the equal rights of others. Or even if we adopt the narrower ambition of producing ourselves at least all the manufactured goods that we need in a given case, the fact that India imports to-day about

60 crores worth of cotton piece goods ought to be ample evidence of the possibility of further expansion. In any event, in the cotton industry alone, there is room for improvement, and there is need as well as facilities, to the extent of the annual addition to the wealth production in these directions of Rs. 75 crores per annum, allowing for a reduction in the value due to an increase in the output or supply. In the industry itself, speaking of its internal economies, we find the average cotton mill all over the country is about 30 per cent. less efficient in output than the average Bombay Mill; while the average Bombay mill is again about another 30 per cent. less efficient in production than the best mill in the country. If the industry is speeded up by energetic management,—which leaves much to be desired from the point of view of efficient production, up-to-date machinery, first-rate organisation for obtaining raw material, operating the equipment and disposing of the finished goods, to the extent that the average mill in the country comes up to the level of the average Bombay Mill at least, without any further addition of capital the output may be increased by another 30 per cent. And if capital is increased by 50 per cent. at most, the full ambition of India on the existing basis of her own requirements, or her own resources in the matter of raw materials, would be realised.[1]

For Jute industry, of the raw material of which we have a monopoly; and for oils from vegetable sources, there is a similar possibility of improvement to the extent of another 50 crores, (Jute 20 and oils and candles, tallow, soap etc. being another 30). Leather, 10, Sugar 10, Chemicals and drugs of all sorts, 5, electrical and mechanical apparatus 5, wood and metal products 20 may add another 50 crores worth of produce to the country's dividend. Railway and allied industries, ship-building and motor cars as well as other vehicles for road and river transport; building, quarrying, glass and cement etc. manufacture; these must add collectively another 50 crores worth of produce per annum all over the country; while a better and more suitable development of the really economical cottage industries, more artistic and therefore demanding greater personal skill and attention, than the mechanical industries usually require, though, at the same time, not rich enough to afford continuous regular employment for a whole year,—we have already instanced wood-working, ivory carving, miniature painting, etc.,—might add 50 crores worth of produce more per annum. The total additions thus likely to be made are:—

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[1] For a fuller treatment of the possibilities of this industry in India, see the present writer's *Trade, Tariff and Transport in India*. A prominent mill-owner once told the present writer in private conversation that the waste in the Bombay mills due to inadequate or inefficient organisation was about 10 per cent. at least. The mere speeding up of the industry would thus save the country 10 per cent. let alone any other increase. It might also indirectly help to solve the problem of Fiscal Policy in this connection. See also the Mill-owners' Association Report, 1923-24.

Wood and metal products	Rs. 20	crores
Cotton industry	Rs. 75	”
Jute Manufacture	Rs. 20	”
Oils, candles etc.	Rs. 30	”
Leather Goods	Rs. 10	”
Chemical, Mechanical and Electrical apparatus	Rs. 15	”
Sugar manufacture	Rs. 10	”
Transport materials and industries	Rs. 30	’
Glass, cement, bricks and building material	Rs. 20	”
Cottage industries (artistic crafts)	Rs. 50	”
Total possibilities for expansion	Rs. 275	”

The population supported by industry will, with these developments, and when they are all accomplished, be raised from the present 33 million souls to 60 millions, allowing for the economy in labour due to improved organisation of the industries in each case; or from the 10 per cent. of to-day to 20 per cent. Trade, including banking and all the intermediary services, and Transport will then absorb 15 per cent. of the total population, and take that much of the total national dividend as their legitimate share for the service rendered. This means a much better scheme for the distribution of the labour force of the country, with, of course, a far more equitable return in the shape of income per head. Mining and the allied or dependent industries will occupy effectively about 5 per cent. of the population, forestry and forest industries, including paper-making (but not journalism)—2½ per cent.; and Fishing 2 per cent. of the population. This leaves about 55 per cent. of the people to be still accounted for. Allowing a total of 5 per cent.—including of course workers and their dependents of all sorts, for the Public Service and administrative departments of the Central, Provincial and Local governments of all kinds, as well as the professions, learned or artistic, we leave the residue of 50 per cent. for direct support by agriculture, which, as we have shown, is capable of considerable expansion or improvement in the immediate future.

7. A REVISED SCHEME OF DISTRIBUTION NECESSARY

The mere improvement in the productive organisation and output will not mean any great amelioration of the conditions of the people at large, if we do not at the same time suggest a realignment of the scheme of distribution. The existence of poverty and misery in all modern societies are a creation largely of human institutions, and therefore capable of being remedied also by human institutions and human effort. Poverty, of course, is a relative term. But according to the standards we have elsewhere given regarding the minimum requirements of a human being, the Indian production falls short of the requirements by at least a third; while the existing scheme of the distribution of the national resources leaves more than 2/3 of the population abjectly poor,—too poor to afford even the barest necessaries even in the most primary wants of the human organism. There must thus be a revision as much in the scheme of distribution, as there must be improvement in the organisation for production.

How is a better, more equitable system of distributing the National Dividend to be secured?

There must, first of all, be a reduction with a view to their ultimate abolition, of all those deductions which are avoidable, and the wealth drained away on account of which would then remain in the country to augment the income or resources of its own inhabitants. This is a grave problem, since it affects the entire political system of the country, and the inevitable consequences thereof. The economic argument for the rapid abolition of the Home Charges of the Indian Government is irresistible.[1] The tribute paid to the Foreign Capital invested in India may not be immediately avoidable; and, perhaps, if India's undoubted resources are to be developed, we might never be able altogether to dispense with this charge. But it is capable of being restricted to the legitimate dimensions, which, to-day, however, are far too excessive. It is, besides, possible to induce the indigenous capital to seek employment in these developmental directions, which are to-day all but ignored.[2] But indigenous capital is simply impossible to be attracted in these channels, while there is no chance of forming a surplus of production over consumption. We are living to-day much below the margin. The defect is made good by wasting capital. Finally, we have already pointed out how the shipping and other less perceptible deductions, (but not less important from the point of view of the actual loss to India) can be avoided.[3]

Next in importance after these deductions, we must mention the tax system, and its effects upon the distribution of the national dividend. The Indian system of taxation is the perfection of inequity in the adjustment of burdens. While rich multimillionaire Zamindars escape taxation altogether,—though theirs is perhaps the only instance of unearned income, fixed and regular and expanding utterly irrespective of any special talent or exertion on their part,—the poor ryot, habitually living below the barest margin of necessaries, is taxed so as not even to allow him an exemption for the minimum of subsistence. And in this indictment we take no count of the other taxes usually borne by the ryot class,—e.g., excise duties, stamp dues, railway and post office and forest charges, salt and customs charges etc. Again, the Cotton Excise Duty of India has the unique, but unenviable, distinction of being a tax on production which is admirably calculated to strangulate the country's own industry so that a foreign industry, and a competing one at that, may benefit. Even if such a tax is at all necessary for any reason, its proper place is on profits not on production. We can multiply instances of inequities in tax adjustments to any amount we choose. It is enough to add that the services supposed to be rendered by the proceeds of this taxation are as unequally divided, so as to intensify the real inequalities of distribution. Even if we condone the army expenditure as necessary for the maintenance of peace and order within the country, who does really get the benefit of this expenditure? Why, the rich and the propertied classes, next after the microscopic section of foreigners who do the "defence" of the country. The same may be said for the amounts spent on the Police force, Prisons, and even Courts of Law. The ordinary administration machinery is naturally a close preserve, under an alien Government, of a class of foreigners, who are doubly injurious in that they have no real abiding interest in the permanent welfare of the country, and who are nevertheless rapidly losing such sense of responsibility as they ever had. In so far, again, as the public service of the country is open to the children of the soil, the necessity of education and equipment unavoidably makes even that portion to be the practical monopoly of the richer classes within the country's own people. Finally, the outlay on Education, Sanitation, and other so-called developmental departments,—one wonders how much of these really benefit the large majority of the country. While even the most elementry of all the duties of a modern state,—the compulsory education upto the minimum stage of elementary education,—is not assumed by the state in India, we can hardly say that any portion of the public expenditure even on these departments really benefits the people at large. Speaking in the terms of classes we have made out in a previous chapter according to the distribution of the national dividend, the benefit of all such outlay must needs go only to the two superior classes, while all the remainder have to go without.

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[1] See the present writer's Sixty Years of Indian Finance.

[2] See for a scheme of attracting indigenous capital for the development of Indian industries, the writer's Indian Currency, Exchange and Banking.

[3] See The Trade, Tariffs and Transport in India by the present writer, particularly the evidence, there reproduced, given before the Indian Mercantile Marine Committee.

Under these circumstances, the need for a readjustment of taxation with a view the better to distribute the benefits as well as the burden of the State, is indisputable. The recent proposal of the Government to institute a Taxation Committee had this much at least in its favour; that had it carried out satisfactorily the work entrusted to it, it might have provided a basis of this readjustment. But the proposal was from the beginning opposed by the representatives of the people,—not only because they suspected, not without reason, the proposal concealing a trap for the increase of the total tax burdens,—but also because the scope of the reference made to the Committee precludes any proper investigation into the real capacity of the people to bear taxation. It is not merely a question of adjustment. It is largely a problem of co-relation of taxation to ability, which cannot be achieved by shuffling individual taxes, or by ignoring, as the proposed Committee would undoubtedly have done, the outlay of tax monies. The Government proposals as they stood really amounted to putting the cart before the horse, and so the fate of the proposals is perhaps not entirely regrettable. In any event, a better distributed taxation, with better corelation, would naturally improve the ability of the people and their income by taking from the section least able to bear the burdens the least possible amount and proportion, and returning to them in the nature of benefits the utmost possible service.

When the present deductions have been avoided or minimised, and the tax burdens readjusted, we shall have occasion to consider a general revision of the entire system or structure of the scheme for distributing the National Dividend. In that eventuality, the most important consideration necessarily will be:—the elimination of the middleman. The parasite must be eliminated,—or at least his parasitism minimised. Transport charges are in the nature of parasitical dues, as we consider them. But the fact that the transport service is monopolised by the State, whose income is only meant to be returned in one form or another to the people, goes a long way to undo the evil effects of such parasitism. Trade is another such instance, comprising all the auxiliaries of commerce and their unavoidable commissions. But to eliminate or minimise all these, we must organise industry and agriculture on the communistic, or at least co-operative basis. Private enterprise is the root of this mischief; and while it continues, there can be no hope for any amelioration effectively of the disastrous conditions of to-day. The advocate of the collective enterprise in India to-day is faced, however, with an impossibility. He cannot trust a foreign Government, with the experience he has of the Indian Government of to-day, to be acting always in the best interests of the people of India. By the very nature of the case, such a Government is bound to be and become the champions of the strongest, if not the largest section of the community. Those who have a stake in the country,—to use the political jargon familiar to English readers,—are necessarily the strongest, loudest and most influential. The mystic sympathy of class feeling permeates the superior public servant, irrespective of the complexion of his skin; and makes him an unconscious supporter of the wealthier classes,—or afraid of them for the sake of his own bread and butter. The advocate of Collective industrial organisation is thus bound to be illogical and inconsistent under the existing state of things in this country. He does not believe in Private Property and individual initiative or enterprise; but he cannot trust the State action or enterprise. This necessary reconstruction of the social system must, therefore, wait in this country until its political constitution is reformed on the basis of autonomy and Democracy, even though the convinced socialist knows the wastage in terms of humanity is much greater under the existing regime of private property and individualist initiative.

But all these remedies, if and when they are fully tried, must needs prove inadequate and unsatisfactory for the radical cure of the poverty of this country and its inhabitants, if the root cause of the difficulty is a real overpopulation of the country. **Is India overpopulated?** The problem is exceedingly difficult to answer. The high mortality,—one of the highest in the world,—is prima facie evidence that the present generation of Indians is unable to maintain itself in that degree of physical comfort or plenty which would secure them a reasonable expectation of life. The average expectation of life in India, according to the experience of the Life Insurance Companies, is exceedingly low, even apart from the very high infant mortality characteristic of this country. And, as we have elsewhere endeavoured to show, the available resources of the Indian people are not sufficient to give them two meals out of every three they need, let alone the question of satisfying other wants like those of clothing or house-room. There is thus ample evidence to conclude that India is overpopulated. No doubt, there is a high birth rate,—higher than the death rate, which explains in part the steady growth of the population in the successive censuses. But the further fact that every epidemic which makes itself manifest always claims a greater proportion of souls in this than in any other country is conclusive, in my judgment, of the fact that the vitality of the people is so steadily being reduced that they are unable to withstand the ravages of any sudden demand upon their constitution. Habitually underfed, they simply cannot, of their own inherent vitality, resist the approach of illness; and so the death rate also tends to be excessive. There is no further proof necessary to show that India is, from an economic standpoint, overpopulated. It is true, the people manage somehow to live. But they live a life which is a disgrace to any community calling itself civilised, since the less than brute existence they manage to maintain is purchased at the cost,—impossible to measure in terms of money,—of a steady, regular, progressive, unrestrained reduction in the national vitality, and national efficiency.

Granted the problem of excessive population, the potentialities we have been considering, reinforced by the savings and remedies we have outlined, may not suffice to solve effectually the real problem. During the height of the political agitation of 1921-22, the leader of the Indian popular opinion definitely and unequivocally expressed himself against further multiplication of the Indian population. His reason at the time was, of course; the unwillingness to add to the number of political slaves of which the Nation of India has come to consist in a large measure. But there is an equal, if not a stronger, reason to protest against further multiplication on economic grounds. The 4,550 crores worth of national dividend with the full benefit of savings of another 200 crores, distributed among a people numbering 27 crores may mean an average income per head per annum of Rs. 175 in round terms (or Rs. 150 at most including the Native States Territory its people and its wealth). To those accustomed to an income per head of Rs. 50 or 65, at most this would seem in the nature of a fortune. But still it is quite a different question whether the 150 or 175 rupees per annum—some 12 to 15 rupees per month per head,—would really give a standard of living amongst our people, of which we may reasonably be proud, or with which we may even be satisfied There is nothing for it but a resolve to restrict the growth of the population in India by every means the intelligent and awakened conscience of the community can devise. It is true, the undertaking of a problem like his would mean interference with the very foundation of the Indian Society. It might mean a revision of the marriage and family law that seems to have endured through the ages. It might mean a reconstruction of the relations between the parents and children, and a revision of the entire view point of relationship between the State and the citizens. It might mean a general conscription of adult labour in the country for the economic uplift of the entire race. These are undertakings which no foreign Government dare to tackle. But they are for that reason not the less urgent.

The restriction of population in the ways suggested above will of course be effective, if at all, in the future. If the population in India is excessive for the resources of the country to-day,—and certainly there seems to be excess,—is there no means to remedy the immediate situation? The redistribution between industry and agriculture we have already suggested will no doubt, when accomplished, be a palliative more immediately useful than the remedies hinted above. But perhaps that also would not be so effectively useful as emigration on a large scale in lands which are not populated by anything like the number we have in India, by anything like the number that could easily be maintained in reasonable comfort on those very same lands. Africa and Australia and South American countries are notoriously underpopulated in proportion both to their area and their known resources. The following summary of the population and area from the Year Book of the

International Agricultural Institute at Rome shows the utter waste that in many countries has to be suffered notwithstanding the misery in many other countries, simply on account of the unequal distribution of the population of the world. The European peoples have had an advantage in the last two centuries in colonisation ; but the policy they seem to have adopted in regard to the population of the relatively uninhabited territory that they have discovered or conquered and settled can scarcely be described as any better than DOG-IN-THE-MANGER policy. For there are many regions in Africa, America and Oceana where for sheer climatic reasons, they are unable themselves to colonise, and yet they would not allow the surplus population of China and Japan and India to find an outlet in those parts. The natives of these latter countries are constitutionally better fitted by far to develop these regions than the inhabitants of the colder zones. And yet, because the senseless jealousy of the European peoples, and their latest imitators the Americans, would not permit them to allow the surplus from the overcrowded countries to find an outlet in those parts, the untold wealth of those parts has perforce to be wasted, to remain undeveloped.[1] The penalty is paid by the world at large, while the benefit does not accrue even to the champions of the White Australia and White Africa policy. It is true, no doubt, that the decidedly higher standard of living in those countries of recent development has been purchased by the labouring section of the population in those parts at considerable sacrifice and long struggle; and it may even be conceded that the incursion on an unrestricted scale of the peoples of tropical countries, like China or India, where they have

CONTINENT	Population at date nearest to 1921, in millions	number of inhabitants per square kilometre.
Europe	453·2	45·0
Asia	1005·7	24·5
North & Central America ..	144 6	6·5
South America	67·6	3 6
Africa	140·8	4·9
Oceana	8·5	1·0
COUNTRIES.		
Germany		127·4
Belgium		245·2
France		71·2
Great Britain		186·1
Italy		125·8
United States		13·5
Canada		0·9
North & Central America (Average)		6·5
Argentina		2·9
Peru		5·3
Brazil		3·6
Japan		146·3
Persia		5·5
INDIA (Average)		68·5
British Provinces in 1911		91·3
Native States " "		36·5
Belgian Congo		7.2
Spanish North Africa (in (1911)		207·2
French Equatorial Africa ..		5·6
" West " ..		3·5
Algeria		10·1
French Moroco		10·9
Egypt		12·4
Kenya		4·4
Uganda		10·7
Rhodesia		1·6
Union of South Africa ..		5·6
Commonwealth of Australia ..		0·7
New Zealand		4·8

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[1] See an Articale by F. A. W. Gisborne on the "Future of Tropical Australia" in the July, 1923 number of the Edinburgh Review and another in July 1924.

not always attached adequate interest to materialise well-being and means for the same,—the resultant competition might very possibly reduce the general standard of material prosperity, we can understand the survivors of the original strugglers to be unwilling to see the fruits of their hard-won victories dissipating in this manner. But, when all is said in exculpation of the policy of the dog-in-the-manger these people have adopted, when all allowance is made for their natural reluctance to admit outsiders on a scale of equality with themselves in the regions of so much promise to themselves, the fact will nevertheless remain that the jealousy with which they look upon the new aspirants for settlement in their lands is utterly inconsistent with the basic idea of their own struggle and victory with the champions of exclusive proprietorship. Equal, at least equitable distribution of material well-being, as far as human institutions and ingenuity can make it so, ought to be, must be, the aim of all human activity in the domain of economics. There are limitations enough on the fruition of human energy. We cannot all work for 24 hours a day for 365 days in the year for all the years of our life. We cannot all work for productive purposes only, strictly so called. But we must all consume, if we are to live at all. The business of the race must be carried on, even more imperatively than the "Government of the Queen", for on that depends the ultimate salvation of humanity. And if that business is to be carried on,—if the race is to be maintained and progress continued, it is equally imperative that we should all of us have an equal access to the material requirements for the maintenance of life according each to his own individual requirements. The problem becomes a world problem, a world menace and not merely a local difficulty, as we in our foolishness might at first sight imagine, when any considerable portion of humanity has habitually to be underfed and undervitalised that a microscopically small section shall be maintained in criminal affluence and be permitted to indulge in unrestricted waste. The League of Nations will have been founded in vain,—and all the assurance about a warless world, would have been given in vain, if this root cause of human conflict remains still an active sore. All the migrations and the consequent misery of the so-called ancient world were due to this pressure of the primitive need,—hunger, which swept away the very foundations of civilisations that had lasted for ten centuries. All the wars of the recent years and generations are also due at bottom to the same generic cause. Have we not yet learnt their patent, obvious lesson? The sparsely populated regions of the world will do no good to their nominal owners or original inhabitants (?) if the latter prefer to keep them utterly undeveloped rather than see them developed by the labour of an alien race. It is a positive crime against humanity, that so much potential wealth should be suffered to remain unutilised because the stupid primitive mentality of a few jealous gentry should refuse to think otherwise and take a broader view of world responsibilities, or think in terms of the race as distinguished from their own immediate paltry circle.

It is, thus, the only solution for excessive population, not only in India but in every part of the world wherever that phenomenon manifests itself, that there shall be a better distribution, more equal and more equitable, of the available resources of the world. The world belongs to no particular community, but to the entire humanity. Why should any section of it be excluded from its potentiality? We in this country have a particular grievance in this regard, which makes the resultant disability harder to bear. We are supposed to be members of the British Empire with equal rights of citizenship all throughout the Empire. But in practice we have the right to bear the burdens of the Empire, equally or in a greater proportion as it suits the dominant race to impose upon us; while, when it comes to the sharing of the benefits of the Empire,—there is a most expressive shrugging of the shoulders, for they who have will keep, and they who have not must watch and weep,—if they cannot do better. If the British Empire is ever wrecked, it will be wrecked upon the rocks of the inter-Empire relations, upon the question of the real equality of the Imperial citizenship. India has lived for a hundred and fifty years under a series of ever increasing injustices. She has begun to perceive these injuries, and learnt to make empty protests about them. It is time the guardians of the Empire learnt to devise measures lest these protests become suddenly effective and irresistible.

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Dr. Marshall	Principles
"	Economics of Industry
Professor Pigou	Wealth and Welfare
"	Economics of Welfare
J. S. Mill	Principles of Political Economy (Ashley's edition)
Professor Cannan	Wealth
"	Theories of Production and Distribution
W. R. Ingalls	Wealth and Income of the American People
Professor Fisher	The Nature of Capital and Income
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William Smart	The Distribution of Income
Sir Robert Giffen	The Growth of Capital
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Mulhall	Industry and Wealth of Nations
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Bowley	Elementary Manual of Statistics
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Moreland	India at the Death of Akbar
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Dadabhai Naoroji	Poverty and Un-British Rule in India
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INDEX

A

p.
Accretions—To live Stock 145
Adam Smith;
  On a Representative Individual 7
  „ Annual Produce 12
  „ Productive and unproductive work 39—41
  „ Domestic Servants 46
Afganistan;
  Trade with 131
  War „ 268
Africa—Military Expenditure 267
  Density of Population in 342
  Room for Immigration 343
Agar—Forest Produce 152
Agriculture
  Classes and their Services 38
  Industries in Moghul Times 62
  Produce in „ „ 63
    „ Of the Several Provinces 63
    „ Total of 66
    „ Estimating of 71
  Wealth, quantity data 83 et seq
  Statistics of India 84
  Department of; (Cotton) 101
  Valuation of 110 et seq
  Pests and diseases 139
  Quantity figures summarised 160
  Value figures summarised 162
  Improvement in 164
  Total Net Value 199
  Fundamental Source of wealth 203
  Indebtedness 239
  Provincial wealth in 283—7
  Population Supported by 294
  Income from—not taxed 298
  Estimate of 301
  Holding—average size of 304
  And Diminishing Returns 310
  Resources and Improvement 310 et seq
  Profitability of 323
    (See also under Income, Wealth and Native States)
Akbar—Moreland on 58
  Vincent Smith on 59
Allahabad—origin of 81
Alluminium—where found 182
Alluvial Soil 74
Andhra Valley Power Supply 179
Anglo-Persian Oil Company, ownership of Shares in 2
Animals—Income from 140
Upkeep of 146
Antimony—where found 182
Apiculture in India—Value of 140
Area and yield
    Figures of 84
  „ Under crops 135
  „ Statistics of 311
Armaments—Utility of 44
Army—utility of 44

p.
  Non-Indian charges of 212
  Expenditure on 237
  Food-rations in 243—7
  Expenditure on 265 et seq 338
  Commissions 269
  and the Empire 313
    (See also under Military)
Arrakan—Rock System of 73
Arsenals—included in National wealth 44
Assam: Geological Formation 73—4
  Rice, Soil in 75
    „ Figures of 87
  Jute yield in 100
  Tea in 104
  Rubber in 155
  Petroleum in 184
  Revenue in 257
  Wealth of 283—7
  Real revenue charge in 289
  Income Tax in 296—8
  Super Tax in 307
  Room for Tea & Forest development 324
Atkinson—Index Numbers of 111
Attar—Forest Produce 152
Australia—Census of Production 14—15
  Food—Supply from 136
  Average Income in 202
  Military Expenditure 267
  Area and yield Figures 314
  Development of Tropical 342—3
    (See also under Oceana)
Average—For different periods 70
  Yield of Principal Crops 83—88

B

Bajra—Soil for 76
  Yield of 92
  Pricing of 116
  Quantity Summarised 197
    (See also under Food)
Ball—Economic Geology 73
Baluchistan—States : Revenue of 211
  Revenues in 257
Banking—Drain on account of 202—215
  Capital in 217—220
  Amount of 232
Bank-rate—High in India 232
Barbour, Sir D.—on
  Estimates of Indian Wealth 63
  Comparison with 201
Barley—Yield of 92
  Pricing of 116
  Quantity Summarised 197
    (See also under food)
Baroda—Revenue of 211
    (See also under princes)
Bengal; Agricultural Income of, as measured by Dadabhoy 64
  Ratio of Land Revenue to outturn 65
  Soil of 74
  Forests in 78

p.
  Oil Seeds in 97
  Jute yield in 100
  Tea in 104
  Tobacco in 107
  Jute Industry in 169
  States—Revenue of 211
  Revenue in 257
  Detailed calculation of wealth in 283—7
  Real Revenue charge in 289
  Income Tax in 298
  Super Tax in 319
  Agricultural Holding in
  Irrigation in 315—17
  Room for further development in 324
    (See also under Landlords, Zamindars, Agriculture)
Bentham—on Average Individual 7
Bernier—On Wealth of India 58
Bihar & Orissa;
  Rice figures of 84
  Rice yield of 90
  Barley in 92
  Maize in 93
  Sugar in 94
  Oil Seeds in 97
  Jute yield in 100
  Tanning Materials in 102
  Tobacco in 107
  Mica in 184
  States—Revenue of 211
  Revenue in 257
  Detailed view of the wealth of 283—7
  Real Revenue charge in 289
  Income Tax in 298
  Super Tax 307
  Irrigation in 315—17
  Room for further development in 324
Blackett, Sir Basil—on cost of Manufacturing Drugs 177
  On Debt 265
    (See also under Finance Minister and Debt.)
Bombay
  Agricultural Income of as measured by Dadabhai 64
  Ratio of Land Revenue to Outturn 65
  Soil in 75
  Forests in 78
  Port of 80
  Railway Radiation from 81
  Rice figures of 86
  Rice yield of 90
  Sugar in 94
  Oil-Seeds in 97
  Cotton yield in 100
  Tanning material in 102
  Tobacco in 107
  Cotton Prices from 120
  As a block in inland Trade 131
  Cotton Experiments in 138
  Fisheries Department in 158
  States—Revenue of 211
  Revenue in 257
  Detailed view of the wealth of 283—7
  Real Revenue charge in 289
  Income Tax in 296—9
  Super Tax in 307

p.
  Average agricultural Holding in 321
  Irrigation in 315—17
  Cotton Industry of ; Prospects of expansion in 336
Bones—Production and use of 141
Bowley, Dr. on definition of capital Wealth 2
  On National Income 20—24
  „ „ Dividend 23
  On Services of Agriculture 38
  Includes arsenals 44
  On Wealth of U. K. 83
Brazil—Coffee from 136
Britain—Distribution of Wealth in 293
    (See also under England and United Kingdom.)
British Association ; Report on Direct Taxation 52
  British Government and cost of the Indian Army 269
  British Troops in India 270
    (See also under Empire, Army, Debt and Military.)
Broach—Cotton Soil for 76
  Price of—as basis for valuation 121
Budgets—Working classes 250—3

(See also under Blackett)

Buildings—Total value of 193
Burma—Included in this inquiry 68
  Soil of 75
  Soil for Rice 75
  Forests in 78
  The granary of India 84
  Rice Figures of 86
  „ yield of 90
  Rubber in 155
  Gold in 181
  Silver in 181
  Petroleum in 184
  Wolframite in 182
  Revenue in 257
  Real Revenue charge in 289
  Detailed view of the wealth of 283—7
  Income Tax in 296—7
  Agricultural Holdings in 319
  Irrigation in 315—17
  Forest industries in 324

C

Calcutta—Port of 80
    Block in Inland Trade 131
Calicut—Port of 80
Calories—A method of valuation 110
  needed by men 242
  Definition of 242—*n*
Calvert—on the Wealth of the Punjab 319
Camphor—Forest Produdce 152
Canada—Census of Production 15
  Food—Supply from 136
  Flax production in 138
  Average income in 202
  Military Expenditure 267
Canals—Investment in 66
  Area irrigated by 315
  Projects of 317

p.
Cannan—Dr. on Wealth 2
  Theories of Production & Distribution 4
  Definition of National wealth 12
  Copyright an item in wealth 4, 10
  On productive and unproductive work 39
  On Adam Smith 40
  „ J. S. Mill 43
  On Expenses of training the worker 51—53
Caoutchouc—Produce of 155
Capital—Included in computations 12
  Wealth 43
  Investment of 66
  In jute 169
  Debentures 208
  Foreign, in India 215
  Total, in India 217
  Native—Profits of 239
  Levy on 277
  For Agriculture 324
    (See also under Debt, Interest and Foreign.)
Carbon and its Products 182—83
Castor—Area of 97
Cattle—Income from 140 et seq
  Figures for 142
  Upkeep of 146
  In Indian Economics 160
  Deductions for 251
Cement—Value of 193
Central Provinces—Agricultural income of, as measured by Dadabhoy 63
  Mineral Wealth in 73
  Forests of 78
  Yield of Wheat in 91
  Oil Seeds in 97
  Cotton produce in 100
  Experiments in 138
  Iron in 181
  States—Revenue of 211
  Revenue in 257
  Detailed view of wealth in 283—7
  Real Revenue charge in 289
  Income Tax in 296—8
  Super Tax in 307
  Irrigation in 315—7
  Possible development in 324 n
  Forests growth in 326
  Mineral possibilities 329 et seq
Census—occupational 14
  of production 15
  „ Wealth 15
  „ Income 15
  In United Kingdom 54, 83
  Basis for estimate of national wealth 70
  of Houses 190
  „ India—bad statistics 293
  „ Occupations in India 294—5
  Statistics re. income 299—300
    and agricultural 302
  P. O. Railway etc. employees 304
  Commissioner of Bengal 319
Ceylon : Tea from 105
  Coal exports to 183
  Capital in 217
Chemical—Deficiencies of Indian Soils 77

p.
  Establishments for 167
  Value of 178
  Contents of foods 241
China : Tea from 105
  Trade with 131
  Indian Tea excluding 136
Chittagong—Port of 80
Cinchona—Soil for 76
Civil—Charges 212
  Works 258
  Miscellaneous charges 262—3
Climate and Production 78
Coal-Mines ; investment in 66
  In Gondwana 73
  Imports from Africa 82
  Production of 183
  Quantity and Value of 186—197
  Foreign capital in 220
  Companies 224 ap.
  Possible increase in the yield of 336
  Possibility of absorbing surplus population 330—1
    (See also under Mineral)
Coasting—Trade 132
  Freight earnings on 222—4
Cocoanut—Areas of 97
    (See under oil)
Coffee—Cultivation of 73
  Soil for 76
  Yield of 105—6
  Price of 125
  Summary figures 133
  Experiments in 138
  Quantity of 197
Collectivist State and Distribution 34
Cochin—Coffee in 105
Colonisation—possibilities of
  By canals—in Punjab 324
Colquhoun—on National Wealth 13
Commerce—General view of 166
Commercial—Departments of Indian Government—Receipts from 211
  Crops 312
Commodities—measurable in money 33
  Staple—Summary of 133
Companies—Registered outside but working in India 219
  Foreign—in India 220
  Super Tax on 307
Communistic organisation of
  Industry and Agriculture 340
Congress—Indian National and Debt 278
Consumer—cost to 206
Consumption—aid in computing 14
  Tax on 14
  and Production 34 n
  Standard or Normal 70
  Of fish in India 159
  „ Cotton 169
  „ Hides and Skins 177
Co-operative credit—use 325
  in Agriculture 165
  Farming 324 et seq.
Coorg—coffee in 105
  Experiments in 138
Copper—Production and Manufacture of 182
  Quantity and Value of 186

p.
(See under Mineral)
Cottage—Industries—Scope of 165
Value of the produce of 193
(See also under Handicrafts)
Cotton—Soil for 76
Industry, why concentrated in Bombay 82
Exports and consumption 99, 169
Indian Committee 101
Valuation of 120—21
Summary figures of 133
India's resources in 136
Principal establishments 166
Review of 167
Statistics of 168
Value „ 173
Manufactures, Value of 193
„ Quantity of 197
Excise Duty on 290, 338
Consumption by hand-looms 304
Area and Yield of 314
Cotton—Mr. J. S. on Soils 77
„ C. W. E. on Cottonseed 97
On hemp 101
„ Coffee 105
„ Resin 153
Councils—for paying Interest 218
Crammond—Computation of Wealth 10—12
Estimate of the Wealth of U. K. 18
Cromer—on the Wealth of India 64
Crops—and Area 135
Cuba—sugar in 94, 314
Currency—in circulation, basis for estimating National Wealth 70
Receipts from 258
(See also under Exchange)
Curzon—Estimate of Wealth 65—66
Comparison with 201
Customs duties—aid in computing 14
Statistics of 206
Income from 258
In Bombay and Bengal 288
Analysis of 290—1
Distribution of 292

D

Dadabhoy Naoroji : Estimate of the Wealth of India 60, 61, 63, 68
Comparison with ours 201
Dalton—Dr. on objective Income 22
on National Dividend 24
„ Direct Taxation 52 *n*
Datta—K. L. Inquiry by 68
Why his method rejected 84—86
on Price Statistics 112
„ Food Supply 172
Davenant—on children as wealth of a nation 4
Death Duties—an aid in computation 14
Suggested addition of 278
Debentures—Part of Individual Wealth 7
Analogy of deductions with 208
Charge of 219
Debt—Drain on account of 202
Charge of 220
Figures „ 235

p.
Effect of War on 265
Due to military reasons 266
Interest on and Volume of 272
Origin of 273—4
Amount of Interest remaining in India 276
Charge of 219
Reduction of 276
Repudiation of 278
Deductions—From gross national wealth 205
Rationale of 205 et seq
Specifically considered 209 et seq
Summary of 234
To be abolished 337—8
Deccan—climate of 74
Soil of 75
Irrigation in 315—17
Defence Budget of 266
Depreciation Fund to maintain Property 51
Diamonds—Quantity and Value of 186
Diet—Standard of 240
Digby—Estimate of Wealth of India 60
On Cromer's Estimate 64
His own estimate 65—68
Comparison with 201
Diminishing Returns—Law of, in Indian Agriculture 310
Distribution—affecting our notions of wealth 4
Affecting computation of National wealth 7
And Services 33
The Principle of 34 *n*
Consequence of its inequality on Services 35
Problem of 70
And Taxation 292
Of the Wealth of India 293 et seq
Summary of 308
Unequal, due to social Institutions 307
A fair scheme of—for the population 278
Improvements in the scheme of Distribution 336 et seq
District Boards—Revenues of 256—60
Dividend—National 9
Defined by Marshall 23
Distribution equitably of 324
Improvement in 339
Dockyards—Principal 167
Double counting—Error of 5, 28
Drain—of gold to India 59
From gross wealth 202
(See Deductions)
Drugs and Narcotics—yield 103
Value of 128
Manufactures of 174
Dubey—on Indian Food Problem 68
Estimate of Pulses etc. 93
On Seeds 163
Dundee—Jute industry in 169
Dutt R. C. on the Poverty of India 60
Dyeing Materials—yield etc. 102 et seq
Synthetic and Indigo 102
Value of 123
Establishments in 167

p.

E

Earnings:—Meaning of 29
Mulhall on net 54
Economics: claim to be a Science 7
Terms in 53
Economic Deductions from Wealth 209
considered specifically 215 et seq.
Holding: Definition of 324
Economist—The: On Foreign Investments 218
On Freight earnings of British ships 222
Edgeworth—On Direct Taxation 52 *n*
Egypt—Sugar yield in 94
Area and yield figures of 314
Elsaz—Dr. Monitz; Estimate of German Wealth by 17
Emigrants—Indian Remittances of 234
Emigration—Possibilities of 340 et seq
Empire—Wealth of 15
Present made of 274
Burdens of 313
Pioneers of and industrial extinction of India 320
[See also under Giffen, Britain, England]
England—Expenditure incurred in 212—13
Interest payment in 219
Food needs of 241
Revenue of India in 257
Relief for the Debt of India by 276—7
Error—In computations of National Wealth 85 et seq
Esher Committee—on Indian Army 269
Europe—Cotton demand from 100
Exchange—Affecting Wealth 4
Value in being a criterion of Wealth 4
True measure of services 32
Revenue from 257
Expenditure under 262—3
Excise—Revenue from 177
Yield of 258
On Cotton 290, 338
Distribution of 292
Expenditure—On Houses 190
Of Government 210
How far a return to people 212
Of Shipping Companies 222
Analysis of Public 262—3
Benefit from 282, 338
Exports—Visible and Invisible 2
Of Tea 136
„ Non-Food crops 137
Total value of 137
Duties on 165
Of Wool 175
„ Hides and Skins 177
Character of 208
Excess of 235
Deductions for 251
Duties on—Yield of 290
(See also under Trade)

F

Factories—Item in Wealth 4
For sugar manufacture 95
Famine — Commission of 1898, figures of 66
Food rations under the Bombay code 243

p.

Expenditure on 262—3
Fibres—Yield of 98—101
Valuation of 120—3
Exploitation of 328
(See also under Cotton, Jute, Hemp)
Findlay Shirras—Estimate of the Wealth of India 67
Comparison with 201
Estimate of Interest charged on Foreign Capital in India 216
Critique of 219
On Freight charges on India 222 et seq
On Banking Commissions &c. 231
„ Working class Budgets 250—3
Finance—Minister of India 272
On the Debt of India 272—4
Of India 277
Financial Statistics of India 133
Fisher, Prof.—On concept of Income 20—22
On National Dividend 24
„ Services 25
„ Income 36
„ Burglar's outfit 44
„ Income and Capital 53
Fisheries—Income from—in Mughal times 62
Wealth from 71
Income from 158, 200
Possibilities of:— 333 et. seq.
Flax—Production in India 101
Experiments in 138
Flour—Value of 193
Chemical contents of 241
Fodder—Crops—Yield of 107—8
Prices of 126
Quantity of 197
Food-grains; yield of 92
Crops—Valuation of 114 et seq
Prices of (minor food grains) 116
And non-food crops 135 et seq
Obtained from Forests 149
Enormous Production of 160
Seed Requirements for 163
Quantity of 197
Stuffs—exported 208
And Feeding 241
Resources of India 259
Sufficiency of 312
India to grow only 320
Foreign—Trade-Figures as check on Values 131 et seq.
Capital 215 et seq
„ Profits of 232—3
And Riches of a Nation 206
Visitors to India 234
Bureaucracy, charges of 282
Forests—Income from in Mughal days 62
Wealth from 71
Influence of on Production 77—8
And Water Supply 77
Kinds of 78
Area under 149
Economic importance of 149, 327
Minor produce of from 152
Dyes and Tan industry 154
Total Income from 157—200
Revenue from 258

p.

  - Incidence of duty 291
  - Distribution of the burden of 292
  - Development of 324
  - Potentialities of 326—8
- Fragmentation of land 321—4
  - Remedies of 324
- France—Estimate of National Wealth of 14—15
  - Wealth—Estimated 16
  - Terpentine—Produce of 153
  - Average income in 202
  - Military expenditure of 267
  - Debt of 276
  - Area and Yield figures of principal crops 314
  - Devolution of Property in 320
- Freedom of the High Seas 271
- Freight charges of foreign Shipping 222 et seq
  - Detailed Bill of, for India 223—4
  - Criticism and answer 230—1
- Frontier—Trade along Land 131
  - Use of Army beyond 269
- Fruits & Vegetables—Yield of 109
  - Price of 127
  - Quantity of 197
- Fuel—Supplied by forests 77, 149
  - Quantity of 150
  - For Indian Railways 280

G

- Gandhi, Mr. M. K.—on Indian Debt 278 *n*
  - On the Spinning wheel 322 *n*
  - On Restriction of Population in India 341
- Ganges—an economic asset 81
- Geddes—Prof. P. quoted on popular notions 3
- On Triad 72
- Sir Eric, on Wealth of India 60
- Gems—Production of 185
- Geography—Economic, of India 72
  - Survey Department 74
- Geology—Economic, of India 72
- Germany: Present and potential Wealth of 8
  - Estimate of National Wealth of 14
  - Reduction in National Wealth of 17
  - Potash manufacture in 184
  - Average income in 202
  - Forest industries in 327
- Gettle—on Nation 2
- Ghauts—Power Works on 179
- Giffen—Computation of Wealth 10—13
  - Consumption Wealth of U. K. 15
  - Of U. S. A. 16
  - Drink Bill of U. K. 177
  - Freight earnings of U. K. 225—30
  - Banking Commission 231
  - Insurance earnings of U. K. 232
- Glass Works 167
  - Manufactures—Value of 178
  - Value of—Total 193
- Goods—Free, excluded from the notion of Wealth 4
  - Free Gifts of Nature 6
- Goodwill—an item of Wealth 4
- Gold 84
  - Where found 181

p.

  - Quantity and Value of 186, 197
  - Mines Foreign capital in 220
- Gondwana—Rocks of 73
  - Coal output of 183, 330
- Gram: yield of 92
  - Prices of 116
  - Quantity of 197
  - (See under Food)
- Ground-Nut yield of 97
  - Quantity of 197
  - (See under oil-seeds)
- Gross Produce 70—71
- Gujerat—Soil of 74
- Gur (see sugar)

H

- Haji S. N. on Freight charges of India 225
- Handicrafts—in Mughal times 62
  - Income from 71
  - Value of 187—93
- Hand-loom—Weaving 187
  - Output and Value of 188
  - Cotton consumption by 305
  - Census of 305
  - Income from 305
  - (See Spinning Wheel)
- Held—Quoted 6 *n*
- Helfferich—On Wealth of the German Empire 17
- Hemp—Produce of 101
- Hides & Skins—Produce of 141
  - Export Duty on 177
  - Quantity of 197
  - (See also under Leather)
- Holding—Agricultural 319
  - Size of—Economic 323—2
- Home Charges—Drain of 201
  - Specifically considered 213
  - Details of 214
  - Return from 215
  - Figures of 230
- House Property—Valuation of 190
  - Increment from new structures 190
  - Gain of owners 239
  - Income Tax from 300
- Hume—On Lawyers and Physicians 47 *n*
- Hyderabad—State and Statistics of 68
  - Cotton yield in 100
  - Hemp „ 101
  - Tobacco „ 107
  - Revenue of 211

I

- Implements—In Agriculture 164
- Imports—Invisible 241
  - Duties on 165
  - On account of Interest 219
  - „ „ Freight 222
  - Freight Bill on 225
- Income—Net 2,3
  - Subjective aspect of 21
  - Objective „ 22
  - Psychic „ 22
  - Taxable „ 23
  - Gross and net 51, 53
  - Gross of India 61
  - Average 65

p.
  - From cattle and other animals 140 et seq
  - Total from forests 157
  - Wealth—not including Shelter &c. 190
  - Average 201
  - Total Taxed 293 et seq
  - Escaping Taxation 299
  - Medium class 305
  - (See also under Wealth)
- Income Tax—System in U. K. 2, 14, 30
  - Statistics of in computation 14
  - Social 24, 28
  - Commissioners (Br.) 25
  - Figures as basis for estimating National Wealth 70, 71, 190
  - Yield of 258
  - On India's foreign creditors 277
  - Incidence of 291
  - Distribution of 292
  - Figures and distribution of National Wealth in Britain 293
  - Number of assessees in several Provinces 296—7
  - Total income Taxed 296—7
  - On Securities in India 300
- Indebtedness—Of Agriculturists 165
  - International, to be cancelled 276
  - Real Total of India 278
- Index Numbers—Their use in valuing 111
  - Value of Indian production 104—8
- India ; Income Wealth of 8, 19
  - Estimate of Total Production 31
  - Wealth of—Popular conceptions on 58
  - Food—Crops of 136
  - Flax production of 138
  - Military expenditure of 265 et seq
  - Census of occupations in 294—5
  - Potential Wealth of 310 et seq
  - Comparative figures of the area and Yield of Chief Crops 314
  - Of To-day Series 317
- Indigo : Plantations investment in 66
  - Soil for 76
  - Yield of 102
  - Value of 123
  - Summary figures 133
  - Substitute for Tea 139
  - Quantity of 197
- Indus 81
- Industrial classes ; Labour of 42
  - Distinction in Service 47
  - Wealth of 171 et seq
  - Commission : on Power 179
  - On Hand-loom Supply 187
  - Miscellaneous establishments 180
  - Capital estimate 217
  - Revolution in Britain 320
  - Development of India 324
  - Possibilities of Forests 326
- Industries ; Employment in 66
  - Mining and geological regions 73
  - Distribution of 79
  - of fruit 129
  - Indigo and synthetic Dyeing 133
  - And Natural resources 81
  - „ Forest Produce 153, 324
  - Cottage 165

p.
  - General View 166 et seq
  - Engineering 180
  - of Iron 181
  - Domestic 187
  - Population Supported by 294
  - Income from 305
  - Supplementing agriculture by, in France 320
  - Development of 323
- Ingalls—Potential Wealth of U. S. A. 8
  - Items of Wealth 10
  - Capital Wealth of U. S. A. 16
  - Pre-War Wealth of Chief Powers 17
- Inheritance : Law of Equal 312, 320
- Inland : Revenue Commissioners of, on interest receipts from abroad of British citizens 216
  - (See also Trade)
- Insurance—aid in computing 14
  - Commission for 202
  - Capital in 220
  - Charges of 232
- Interest—Part of wealth 30
  - On Foreign capital 215 et seq.
  - Revenue from 258
  - Expenditure on 262—3
  - On debt, to be included in the military Budget 266
  - Details of 273
  - Income Tax from 300
- Investments—Part of wealth 3
  - In India 202
  - Of Foreigners 215 et seq.
  - New, in London 216
- Iron, Ore where found 73
  - Foundries 166
  - Where found 181
  - Quantity and Value of 186, 197
  - Possibilities of 332—3
- Irrigation—Means to extend cultivation 139
  - Scheme of 203
  - Nature of charges 210
  - Income From 258
  - Expenditure on 262—3
  - Division of yield from 291
  - Employees in 304
  - And the increase of agricultural wealth in India from 313
  - Extent of 315
  - Cost and Income from 316
  - Summary projects 317
- Italy—Average income in 202
  - Gain from foreign Visitors 234
  - Military expenditure of 267
  - Debt due from 276
- Ivory—Production of 141
  - Carving in 188

J

- Jails—Food rations in India 243—6
- Jamshedpur—Origin of 81
  - Iron ore at 181
- Japan—Trade with 80
  - Sugar Yield in 94
  - Average income in 202
  - Tonnage of Ships of 222

p.
Military expenditure of 267
Java—Sugar Yield in 94, 314
Jevons—on Mill 42 *n*
On direct Taxation 52
Joint Stock companies and Super Tax 307
Jowar—soil for 75
Yield of 92
Pricing of 116
Jute—Soil available for 75
Industry, why centred in Calcutta 82
Exports and consumption of 99
Valuation of 120
Prices of 122
Summary figures of 133
Monopoly of 136
Principal establishments 166
Review of 169
Value of 174
Manufacture—Value of 193
Quantity of 197
Foreign capital in 220
Profits of 221
Possibilities of 335 et seq

K

Karachi—Harbour for Sind Trade 80
Wheat exports from 91
Block in Inland Trade 131
Kashmere—Revenue of 211
Keatinge: on Meet produce 143
„ Upkeep of cattle 146
Kellock—The Human Temple 110
Kemmerer—Modern Currency Reforms 111
Keynes 59
Khariff—Crops 75
King—Prof. Estimate of the Wealth of U. S. A. 16
Kleinwarchter—on National Income 20 n
Knauth—Estimate of Wealth in U. S. A. 16
Kolar—Gold ore in 73, 181
Konkan—Good Bajra in 92

L

Labour—Of a country 23
In Wealth 43
Invested in injurious commodities 44
Office—Bombay & Index numbers 111
Gazette—Prices in 114
Human needs of 110, 237
And agriculture 319
Territorial Division of 320
Lac—Produce of 155
Land—Extra for cultivation 311
Wealth from 312
Tenure, effect of 312
Landless man—Problem of 320—1
Land-Lords—Gains of 238
Exempted from Income Tax 301
And Tenants 321
Land Mortgage Banks to secure capital for Agriculture 325
and Revenue—Ratio to outturn 65
Yield of 258
And income Tax 277
Division of 290
Distribution of 292
Administration Reports 303—4

p.
Effect on Welfare 312
First Settlements 320—1
Of Bombay 322
Lascars—Food Rations to 243—4
Lavergne—Estimate of French Wealth 16
Leacock—On Nation 2
Lead—Quantity of 197
League of Nations and Redistribution of population 340
Leather—Works 167
Manufacture of 177
Value of 193
Legumes—Chemical contents of 241
Leone Levi—On valuation of some Services 38
Linseed— Yield of (See Oil) 96
Liquor—Production and Value of 177
Value of Manufactures 193
Loans—To Municipalities 260
Loria—On cost of maintaining Efficiency 52

M

MacDonald—Ramsay, and burdens of the Empire 313
Machinery in Agriculture 164
McKenna—On Fruits 129
Madras—Agricultural Wealth of 64
Ratio of Land Rev. to Produce 65
Soil in 74 et seq.
Harbour of 80
Rice Figures of 84
Bajra in 92
Sugar in 94
Oil-Seeds in 97
Cotton yield 100
Tanning materials 102
Coffee in 105
Ports of—Block in inland trade 131
Cotton experiments in 138
Sandal-wood in 155
Gold in 181
States and Revenue 211
Cost of jail food in 245
Details of Wealth of 283—6
Real Revenue charge in 289
Income Tax in 296—8
Super Tax in 307
Irrigation in 315—7
Forest Development of 328 et seq.
Maize—Yield of 92
Pricing of 116
Quantity 197
Chemical contents of 241
Malabar—Why Coffee centres in 82
Malay Rubber Restrictions in 155
Mallock on Fancy Value of Services 38
Malthus on average individual 7
Malwa—Opium from 103
Manganese Ore—where found 182
Mann—Dr. On Fruit estimates 128
„ Income from cattle 142
„ Upkeep of cattle 146
„ Seed needs 163
„ Joint cultivation Societies 325
Manufactures—Under Mughals 63

p.
  Need of extending cultivation for the raw materials for 138
  From Bones 141
  „ Ivory 142
  Of Paper 151,321
  „ Matches 151,321
  „ Dyeing and Tanning materials 154
  Industries 170
  Of Cotton 173
  „ Jute 174
  „ Wool 175
  „ Silk 176
  „ Sugar 176
  „ Tobacco 176
  „ Flour 177
  „ Toys 188
  Total value 193, 200
Manure—From Bones 141
  Other kinds 142
  And agricultural wealth 318
Markets—provision of 165
Marshall—Dr. On Economic Terms 1, 4
  External wealth 5
  Thames as part of British National wealth 6
  On intangible goods 9
  „ classification of goods 10
  „ capital and annual Income 13
  „ National Income 20—2
  „ „ Dividend 23—4
  „ Social Income 24
  „ Double counting 28
  „ Services 32
  „ Productive services 41
  „ Speculation 45
  „ Domestic servants 46
  „ Transport service 48
  „ Payment of all services from National Dividend 50
  „ Gross and Net Income 51
  „ Real and Nominal Wages 52
Meat—Valuation of 142

  (See also Keatinge, cattle and animals)
Mercantile Marine Committee 337
  Of Britain and its earnings 222
  (See Ships and Freight)
Mercantilists—Ideas on Wealth 4, 58
Metal Working—A domestic industry 188
Mica—manufacture of 166
  Production of 184
  Quantity and Value of 186, 197
Middlemen—Charges of 238
  Abolition of 339
Mill, James ; on Average individual 7
  On National Wealth 13
Mill J. S. on Meaning of Wealth 3
  Definition „ „ 4
  National Wealth 13
  On Productivity 39, 40
  „ Utilities 41
  On Transport and Commerce 47
  „ Wages Fund 49
  And Commercial Profits 171
Milk: Valuation of 143
  Quantity of 197
  Chemical contents of 241
Mills—Item in National Wealth 4

p.
  Bombay (cotton) Owners' Association on cotton consumption and exports 100
Mines—Item in National Wealth 4
  Kolar 8
  Foreign Capital in 217, 220
Mineral Wealth of India 8
  In Moghal days 62
  Inclusion of 71—2
  Principal industrial establishments in 166
  Wealth of India 189
  Other Minerals 184
  Value of 185
  Population supported 295
  Development of 330—3
Military—Receipts 258
  Expenditure 262—3
  Critique of 265 et seq
  Comparative view of 267
  Details of 267—8
Mint—Receipts 258
  Expenditure on 262—3
Missions—Receipts of Foreign in India 234
Moghul Court, Splendour and Wealth of 58
Mollison on the yield of Ragi 93
Money—Item of Wealth 4
  Value in 9
  Measuring Rod 24
  Value of services 25—35
  Incomes and National Dividend 27
  Inadequate to Measure Services 37
  Valuation in 209
Money, Sir Chiozza ; On computation of Wealth 10, 18, 28
  On Improved distribution 37
  Reckons Value of arsenals 44
Monsoon—Passage of 74
Moreland—On the Wealth of India in Moghul days 58—61 et seq
Mortgages—Part of Individual Wealth 7
Mukerji Dr.—Principles of comparative Economics 70
  On seed needs 163
Mulhall—Dictionary of Statistics 16—17
  On Earnings 29, 83
Municipalities—Revenues of 256
  Really Taxes 259—60
Mysore—Coffee in 105, 136
  Sandal Wood oil in 155
  Gold in 181
  Mica in 184
  Revenue of 211

N

Nation—Definition of 1
National Wealth—Definition of 5, 10
  Opposed to individual 5, 6
  Extent of 6, 7
  Income—Concept of 20
  Measurement of 29, 31*n*
Native States—Included in the inquiry 68
  Statistics of 84
  Rice yield in 90
  Oil Seeds in 97
  Cotton yield in 100
  Opium 101
  Tobacco

p.
  Blocks in Inland Trade 131
  Unreliable figures of 135
  Cattle figures for 142
  Forests in 149
  Income from Forests 155
  Revenues of 211, 256
  Tributes from 258
  Revenue all Taxation 259
  Income in 299
  Agricultural income in 303
  Agricultural resources 310n
  Additional land and wealth in 312
  Irrigation in 318
  Forest Produce of 329
Navy—Utility of 44
  Use of the British 270
  For India 271
Net advantages from cattle and animals 148
    (See also under Income.)
  Agricultural production 163
  Value of Food industries Produce 177
  Total Agricultural Produce 199
Newmarch—Direct Taxation 52
Nicholson, Prof.—on estimating National wealth 83
Nickel—where produced 183
Nilgiris—Slopes of, for Tea and Coffee 74
Nitrates—from S. America 184
Non Agricultural Incomes—Estimated by Dadabhoy 64
Nonfood crops—demand for 136
North West Frontier Province Agricultural Income 64
  Revenue in 257
  Railway 267
  Detailed view of Wealth and Taxation 283—7
  Income Tax Statistics 296—7
Norway—Terpentine of 153

O

Oatmeal—chemical contents of 241
Occupations—Census figures of 294—5
  Subsidiary for agriculturists 323
Oceana—Area and Population, Room for settlement in 342
Oil—field of 73
  Seeds, yield of 96
  Area of 97
  Pricing of 119
  Summary figures of 133
  India's resources in 136
  From Forests—Produce 152
    [See also under Sandal, Terpentine &c.]
  Mills 167
  Value of 178
  Quantity of 197
  Capital in 217
  Yield and area figures of 314
Onions—Yield of 109
Opium—under the Moghals 63
  Yield of 103
  Value of 124
  Summary figures 133
  Quantity of 197
  Yield of 258

p.
    (See also under Drugs & Narcotics)
Oudh—Agricultural income of, as measured by Mr. Dadabhoy 64
    (See under United Provinces)

P

Paish—Sir G. on Investments abroad 217
Paper—Industrial establishments for 168
  Quantity and Value of 179
  Manufactures and Value of 193
  Possibilities of 326
    (See also under Forests)
Parliament—Services of members 27
Passenger earnings; of foreign ships 229 et seq
  Of Railways 292
Patents—An item in Wealth 4
Pavy on Dietetics 240
Pearl—Fisheries of 159
Persia—Trade with 80, 131
Petroleum—Refineries in 166
  Resources of 183—4
  Figures of 185
  Quantity and Value of 186, 197
  Excise Duty on 290
Petroleum—Possibilities of 331
Petty—On aggregate and average Wealth 30
  On Production and Trade 130
Physiocrats
  Emphasis on Agriculture 12, 13
  Influence on Adam Smith 39
Pigou—On corelating welfare with National Dividend 21—4
  On Services 26—32
  Disparity between Rich and Poor 37
  On physical efficiency 51
Plant—Item in Wealth 4, 10
Planting Companies—Capital of 220
Pliny—On Drain of Gold to India 59
Political Deductions—or Drain 209—10
Population—And Wealth 200
  Per capita burden on 261
  And Taxation 283
  In Public administration 295
  „ Unproductive occupation 295
  Pressure of 312
  In France 320
  Problem of, in India 340
  Comparative Pressure of, in other countries 342—3
Post and Telegraphs—Income from 258
  Charges—Nature of 280
  Receipts—Incidence of 292
  Employees in 304
Poverty—of India 201—3
Power—Supply—Value of 179, 193
Potatoes—Yield of 109
Prices—Effect of Speculation on 45
  And value 46
  Datta's Inquiry into 68, 84
  Level and fluctuations 110
  Statistics of 112
  Retail 113
  Ratio adopted 113
  Of Rice and Wheat—How taken 114—15
  „ Other food—Grains 116
  „ Sugar 117

p.
Of oilseeds 119
„ cotton 120—1
„ Jute 122
„ Dyes &c. 123
„ Drugs &c. 124
„ Tea & Coffee 125
„ Tobacco 126
„ Fruits & Vegetables 127
„ Fodder 128
„ Condiments & Spices 129
„ Young cattle 143
„ Milk 144
Wholesale and Produce 172
Changes in 209
And wages, statistics of 293
Primogeniture—System of 320
Princes—Indian, expenses in England 214, 233
Produce—Figures, how to obtain 84
Gross agricultural 163
Productive—Meaning of 38
Productivity and Wealth 43
Resources of the State 49
Professional Classes, Services of 39, 47
Population Supported by 295
Profits—Part of Wealth 13, 15, 30, 48
Estimate of 232 et seq
Of Foreign capital 232—3
„ Native capital 239
„ Traders or Commerce 170
„ Foreigners in India 215
Property—Civic, Income from 171
Provincial contributions 258
Expenditure 262—3
Details of 281
Pulses—How estimated 93
Pulteney—On National Wealth 13
Punjab—Agricultural Income estimated by Dadabhoy 64
Ratio of Land Rev. to Produce 65
Soil of 74
Forests in 77
Trade of 80
Rivers of 81
Wheat Yield of 91
Bajra in 93
Sugar in 94
Cotton Yield in 100
Tanning materials in 102
Saltpetre in 184
States—Revenue of 211
Revenue in 257
Detailed view of Wealth and Taxation 283—7
Real Revenue charge in 289
Canals in 318
Irrigation in 315—7
Canal colonies in 324
Forest possibilities in 328—9

Q

Quantity—Figures Summarised 161
Of Industries 170
„ Minerals 186, 197, 330
Quesnay—Quoted on *Richesse et biens gratuits* 4

p.

R

Rabi crops 75
Ragi—Figures not available 93
Pricing of 116
Quantity of 197
Railways—Investment in 66
Trade along 131 et seq
As consumers of timber 150
Workshops and Factories 167
Freight charges of 207
Nature of 210
Receipts of 211
Capital invested in 217
Traffic Receipts of 238
Receipts from 258
Charges really Tax 259
Expenditure of 262—3
Details of 279—80
Distribution of burden 292
Employees in 304
(See also Transport)
Rainfall in India 79
Raiyatwari—Rice figures in villages 84
Area and Revenue from 239
Area etc. under 303
Rajputana—Soil of 74
Bajra in 92
States, Revenue of 211
Rangoon—Harbour for Burma Trade 80
Rape and Mustard—Yield of 96
(See under Oil-seeds)
Raw Materials—Exported 208
Rawalpindi—Oil near 73
Petroleum near 184
Redistribution of Land 323
Registration—Revenue from 258
Rent—Part of Wealth 13, 15, 30
Paid to Land-lords 239
Estimate of 301
Receivers, number of 302
Ricardian theory of in India 311
Restriction of,—by legislation 321
Resin—Forest industry of 326
Retail Prices 172
Difference from wholesale 207
Retrenchment—Inchcape Committee, Memorandum 268
Report of 272
Revenues—of India depend on Production 72
A Drain upon People (?) 202—10
Provincial 210
Total demand on account of 211
Charge on people 231
Raised in Different Provinces 257
Total Burden of 255—6
Reverse Councils—Loss from 275
Rice—Where grown 75, 76
Mill industry, why centred in Burma 82
Figures to illustrate possibility of error 85 et seq
Yield of 89 et seq
Error in 90
Average annual Price of 113
Valuation of 114 et seq
Summary figures 133
Relative position of 160

p.
  Mills in 167
  Quantity of 197
  Chemical contents of 241
  Area and yield figures (comparative) 314
Rivers—Influence on Wealth 81
  Highways of Commerce 81
  Trade borne by 131 et seq
  Gold from 181
Roots—Chemical contents of 241
Roumania—Cotton demand of 100
  Debt due from 276
Rowntree—*Human Needs of Labour* 110
Royalties—Part of Wealth 15, 30
Rubber—Produce of 155
  Capital in 217
  Furthur exploitation of 328
Ruskin—On meaning of Wealth 3, 5
Russia—Present and Potential Wealth of 8
  Cotton demand of 100
  Settlement of 136
  Capital lost in 218
  Repudiation of debt by 276
Ryot—Income and ability 201
  Land Revenue charge on 291
  Full employment to 319
  Settlement with 323

S

Salaries—Part of National Wealth 30
  Drain of foreigners 202
  Of civil Departments 212
  Figures of 213
  Expenditure on 262—3
  In Railways—Distribution of 280, 303
  In the Post Office 280—3
  Income Tax from 300
Salmond—On Nation 2
Salt—Wealth under Moghuls 63
  Production of 184
  Quantity and value of 186—7
  Yield of 291
  Distribution of burden 292, 335
  Revenue from 289
Saltpetre—Where found 184
  Quantity of 197
Sandalwood—Oil from 155
  Carving in 188
  Forest industry of 326
Savings—Aid in computing 14
  Of non-Indians 212
  Of public Servants 232
Saw-Mills 167
Seeds—Deduction for 163, 251
Senior—On National Income 20
Services—Measurement of 24
  Conventional attitude to 25
  Why excluded 28, 31
  How measured in money 35
  Non-Industrial 35
  Why exclude them 38
  Of Commerce and Transport 47
  Their value included in Production 49
  Of Non-Indians 212
  How far a return 214
  Of the State 237
Sesamum—Yield of 96

p.
  Quantity of 197
Sethna—Resolution for an economic Inquiry 67
Shan States—Tea from 105
  Trade with 131
Shares—Part of individual wealth 6
  Of the Suez Canal Co. owned by the British Nation 2
Ships—Building and Timber 151
  Establishments for 167
  Commissions 167
  Payments for 215,337
  [See also under Deductions, Industry, Iron and Steel]
Siam—Trade with 80
Sidgwick—On Economics as an applied Science 1
Silk-Weaving and Sericulture in Moghal days 62
  Principal establishments in 166
  Produce in 176
  Manufactures, Value of 193—7
Silver—Where found 181, 34
  Quantity and Value of 186
Sind—Soil of 74
  Trade of 80
  Bajra of 92
  (See also under Irrigation)
Sixty years of Indian Finance
  Distinction between Tax and Non-Tax Revenues 235
  On Military Expenditure 292
Smart—On Distribution Incomes 26*n*
  On National dividend 50
Soil—Influence of 74
  Different varieties of 75, 77
  Chemical deficiencies of 77
  And Rivers 81
  Variation in size of holding due to 319, 323
Spain—Military expenditure 267
  Rice yield, highest in 314
Speculation—Utility of 45
Spence—On National Wealth 13
Spices—Yield of 109
  Value of 129
  Quantity of 197
Spinning Wheel—Possibilities of 322—3
Stamp—Dr. Sir Josiah
  On Denotation of National Wealth 7—11
  National Wealth same as capital Wealth 12
  Computation 15
  Wealth of Chief Powers 17
  Wealth estimate of U. K. 18
  British Incomes and Property 24*n*
  On Wives' Services 26
  Questions Levy 37, 38
  On arsenals 44
  Subsistence Minimum 53
Stamps—Revenue yield of 258
  Incidence of duty 291
  Distribution of Burden 292
Standard of value—Changes in valuation due to 199
  Food requirement 241

p.
State—Regulating Production 34
Statist—Freight Index of 222
Statistical Measurement—Inadequacy of 24
Stock Exchange—Services of Speculators in 45
Stores—Drain for 202
  Item in Home charges 212
  Figures of 213
  Of Railways 280
Students (Indian)—Expenditure of 233
Subsistence Minimum 53
Sugar—Investments in 66
  Where found, and Soil for 75
  Yield of 94
  Indian Committee on 95
  Pricing of 117
  Summary figures 133
  Factories in 167
  Manufactures of 176
  Refined—Value of 193
  Quantity of 197
  Foreign capital in 220
  Comparative yield and area figures of 314
Sukkur Barrage,—Project of 139
  Cost &c. 317
Surat—Cotton Soil of 76
Switzerland—Gain from foreign tourists 234

T

Tanneries—Number of 167
Tanning materials 120 et seq
  Value of 123
Tata Iron and Steel Company, output of 181
Taxable Capacity 205 et seq
  Problem of 70
Taxation—Direct, Report on 52
  Committee on 67, 339—40
  Means to redistribute Wealth 83
  Burdens and Adjustment 238
  Per capita burden 261
  Real Incidence of 282
  Per head in the Provinces 283
  Indian system of 338
Taxes—Contrasted with charges for Services 210
  On Income—yield of 258
  What are proper 261
  Detailed consideration of Burden 289
  Incidence on several classes of Incomes 305
  Super, Statistics of 306
  Burdens readjusted 338
Tavernier—on Wealth of India 58
Tea—Investment in 66
  Soil for 76
  Yield of 104
  Price of 125
  Summary figures 133
  Monopoly of 136
  Diseases of 139
  Quantity of 197
  Capital in 217—20
  Dividend on 224-A-C.
  Room for extension of 327
Tenancy Legislation 321

p.
Terpentine and Resin—Value of 153
  Prospects of Forest Industry 326
Terminology—Difficulties of 1
Textiles—Industry of 166, 296
  (See also under Cotton, Jute, Silk &c.)
Thames—Part of National Wealth 10
Thompson—On Standard Food Ration 242
Timber—Forest Produce 77
  And Machinery 151
  Supply and use 150
  Value of 326
Timurlane—Methods of restricting population 322
Tin—Where found 182
Tobacco—Yield of 107
  Price of 126
  Summary figures 133
  Factories for 167
  Manufacture of 176
  Value of 193
Towns—Wealth in 189
Trade—aid in computing wealth 14
  Foreign, Basis for estimating National Wealth 71
  Income from 70
  And Situation 79
  With Asiatic countries by sea 80
  Balance in—Sugar 95
  In Fruits and Vegetables 128
  Inland, of India 128—31
  In Spices 129
  Figures as checks 131 et seq
  Coasting 132
  In Saltpetre, killed by German competition 184
  Board of, on Foreign Investments 217—8
  „ On Freight Earnings 222
  Balance and Deductions 234—5
  Figures of 235
  Population supported by 294
  Real Balance of 236
Trade, Tariffs and Transport 234
Trade-Marks-as wealth 10
Tramway Companies—Capital in 217—20
Trap-Soil 75 et seq
Travancore—Coffee in 105
  Rubber in 155
Transport—Service, not productive 47
  Income from 71
  Of Fruits and Vegetables 129
  Principal establishments in 167
  Profits from 170
  Inclusion in Wealth 187
  Charges of 237
  Population supported by 294
  Fair burden for 308
  Difficulties of—in Forest development 326
Treasure—Imports of 235
Treaty of Peace—and Indian army 269
Tributes—Yield of 258
Tungsten—Where found 182
Turmeric—Yield of 109

U

United Kingdom
  System of Taxation 2
  Method of Computation 14

  Wealth of 16
  Recent estimates 18
  Census of production in 83
  Tea exports to 105
  India's coal production in relation to 183
  Average Income in 202
  Debt due to 276
  Yield and area figures of principal crops 314
United Provinces—
  Soil of 74
  Forests in 77
  Price figures of 84
  Wheat yield of 91
  Barley in 92
  Maize in 93
  Sugar in 94
  Oil-seeds in 97
  Cotton yield in 100
  Tanning materials in 102
  Saltpetre in 184
  States, Revenue of 211
  Revenues in 257
  Real Revenue charge in 289
  Income Tax in 296—8
  Super Tax in 307
United States
  Census of production in 83
  Cotton seed in 97
  Terpentine from 153
  India's production of Coal in relation to 183
  Average Income in 202
  Tonnage of 222
  Military expenditure 267
  Debt due to 276
  Yield and Area figures of principal crops 314
Utilities—
  Can be produced 40
  And Wealth 41
  And different services 44

V

Value—
  Exchangeable 5
  In use and in exchange 9
  Fancy values of services 38
  And physical efficiency 51
  Methods of valuing 110
  Checks on 131 et seq
  Of non-food crops exported 137
  Figures summarised 162
  Of cotton Production 173
  Of Dyes and Drugs 178
  Of power supply 179
  Of Industrial Wealth summarised 180
  Of Minerals Summarised 186
  Of Handloom Production 188
  Figures Summarised 199
Vegetables—Yield of 109
  Price of 127
  Quantity of 197
Village—Shop-keepers, Profits of 238—9
  Collective farming in 325—6
Vizagapatam—Harbour of 80
Voelcker—on Indian Agriculture 164, 318

W

Wages—Statistics of 293
  (See also Prices)
  In selected industries 304
Walker—on Fund and Flow 12
War—Exports of non-food crops 137
  (See also price and valuation)
  Gross value of Total wealth during 162
  Net value of Total wealth during 164
  Demand for Iron Goods 182
  Mica Supply before 184
  Value of Indian production during 194
  And Foreign investment 218
  Effect of debt 265
  Contribution of India 270
  And Debt 274
  Restrictions on trade due to 275—6
Washington Conference—Wealth of the Powers at 16
Water—Resources in 164
  Aerated 177
  And Indian Trade 236
  Purchases in 258
Watt, Sir G.—*Commercial Products of India* 77
  On yield of sugar 94n
  Estimate of dyeing-materials 102
  On the value of Milk 144
  On consumption of hides and skins 177
Wealth—Conception of 1
  National 1
  Capital 2—3
  Income 2—3
  Money value of 4
  Material and personal 4, 5
  Intangible 5
  Contrast between capital wealth and Income wealth 12 et seq
  Individual—*vs.* National 12
  And earnings 17
  And Services 36
  Real—definition of 40
  Meaning Material Wealth only (Mill) 43
  Real 118
  Total gross value of 162
  Net value of 164
  Mineral, of India 181
  Of Towns 189
  From Manufactures
  Summary 192
  Total Mineral 193
  Real, annual value of 196
  Real contrasted with Nominal 205
  In relation to population 200 et seq
  And Debt 276
  And Taxation 283
  Of Provinces 283
  Falling under and exempted or escaping from Income Tax 304
  Potential 310 et seq
  From irrigation 318
  Total Potentialities of 341
Webb
  Complement to Mulhall's Statistics 17

Weighted Index Numbers 194
Welfare, economic, and National Dividend 21
Wells—use of for irrigation 315 et seq
Wheat Yield of 89
  Average annual Price of 113
  Valuation of 115
  Summary figures 133
  Relative position of 160
  Quantity summarised 197
  Chemical contents of 241
  Yield and area figures of 314
Wholesale prices, and consumers 170
  Difference from Retail 207
Wood—Working establishments 167
  Value of manufactures 178
  Value of 193
Wool—Principal establishments in 166
  Production in 175
  Manufactures, value of 193
    (See also under Animals)
Working Class—Budgets of 67
  Food Consumption of 243—9
  In European Countries 250
  Expenses of Railways 262—3
Working Expenses
  of : Railways not to be deducted 210

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